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**EVALUATION OF THE GRANT PROGRAM FOR
RURAL HEALTH CARE TRANSITION
FIFTH SEMI-ANNUAL PROGRESS REPORT**

January 27, 1992

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Policy Research, Inc.

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EXECUTIVE SUMMARY

Congress charged the Health Care Financing Administration (HCFA) with implementing a Grant Program of Rural Health Care Transition (Omnibus Budget Reconciliation Act of 1987: P.L. 100-203) and expanding the program (Omnibus Budget Reconciliation Act of 1989: P.L. 101-239). The goal of this program is to help small rural hospitals to improve their long-term financial stability and management capacity.

The program was implemented in September 1989 and expanded in September 1990 and September 1991. Over the last 3 years, 583 small rural hospitals have received Rural Health Care Transition grants: 184 in 1989, 212 in 1990, and 187 in 1991. Thus, approximately one-third of the small rural hospitals in the United States have received a grant. While the vast majority of the grantees (535) have 3-year grants and are progressing with their projects, 28 have completed their projects, and 17 gave up their grants--6 because their acute-care facility closed.

In recent years, small rural hospitals have had serious financial problems and high rates of closure, resulting in access problems for their communities. The grantees were no exception. Their vulnerability to minor changes in management, physician availability, and payment is demonstrated by their fragile financial performance, variable utilization rates, and continued closure. Most grantees are recruiting physicians, recognizing that physicians are critical for maintaining hospital utilization and survival. Gaining Medicare payment increases through reclassification or designation to receive payment adjusters is a strategy for survival. The most successful small hospitals also encourage cooperation and agreement on goals among hospital board members, the administration, the medical staff and the community.

The grants have been used to implement medical and well-patient services, to recruit physicians, and to plan for the future. There is evidence of successful physician recruiting and retention, increased revenue from services, improved morale and attitude toward the hospitals, and increased local cooperation resulting from the grant projects, but the grants have had only a marginal overall impact on the hospitals so far.

1989 and 1990 Grantee Financial and Managerial Performance. Small hospitals are strongly affected by even minor changes in management, physician availability, levels of service use, and financial support. Many of the grantees visited spoke of their precarious finances. There is plenty of evidence of their volatile circumstances.

One of the factors affecting stability of small hospitals is administrator and management contractor turnover. Among 23 grantees visited for the first time in 1991, the annual administrator turnover in the previous 3 years was 22 percent. Moreover, 8 of these 23 hospitals (35 percent) introduced, changed, or terminated a management contract in the past 3 years, which is contrary to previous reports on rural hospitals adopting management contracts.

Cooperation and agreement on goals among the hospital board, administration, and staff (including the medical staff), and cooperation between the community, the hospital, and physicians are also critical to a smoothly functioning and well-used hospital. Many of the communities provide financial support (among visited hospitals, 55 percent provide at least \$100,000 per year) through locally raised taxes or donations. Most hospitals have an auxiliary of volunteers. Many hospitals provide health fairs and patient education. The most successful hospitals described far more of these mutually supportive relationships than the hospitals with the weakest finances (though it is unclear which is the direction of causation).

Hundreds of hours of administrator time and a great deal of money (including recruiting firm fees and income guarantees) are being spent on physician recruiting because physician recruitment is so critical to the continuing health of these small hospitals. Many of the grantees are recruiting: over half (54 percent) of the 1989 grantees and over three-quarters (77 percent) of the 1990 grantees. The 1989 grantees are recruiting an average of 1.2 physicians, and the 1990 grantees are recruiting an average of 2.8 physicians.

The financial status of the grantees remains precarious as a result of many factors, including difficulties recruiting and retaining physicians. The median operating margin of 1989 and 1990 grantees was negative in the fiscal year of the grant award (-0.04 and -0.05 respectively). Among the 1989 grantees, the operating margin improved in the fiscal year after award but remained negative, although revenue (adjusted for inflation) increased slightly after the grant award, possibly because of the changes the grant projects enabled the hospitals to make.

Eight of the hospitals that received grants in 1989 have closed but four continue as grantees providing primary care or long term care, and two of the 1990 grantee hospitals have closed. This implies an annualized closure rate of 1 to 2 percent, which is similar to that of small rural hospitals nationwide in 1990.

1989 and 1990 Grant Project Progress. The status of 1989 and 1990 grantees as of September 1991 is as follows:

STATUS OF 1989 GRANTEES AFTER 2 YEARS AND 1990 GRANTEES AFTER 1 YEAR

	1989 Grantees	1990 Grantees
Continuing	149	202
Completed	26	2
Voluntarily Terminated Grant	4	6
Involuntarily Terminated Grant	1	0
Hospital Closed	4	2
Total Award	184	212

Two years after the awards were made to the 1989 grantees, the 150 grantees who reported in time for this report have spent \$12,941,025, or 83 percent of the obligated funds. One year after awards were made to 1990 grantees, 178 hospitals reporting in time for this report have spent \$6,865,616, or 74 percent of the obligated funds.

One year into their projects, the 1990 grantees are most likely to have completed activities over which they have the most control: close to half of the planned equipment purchases have been made, and one-third of the projects that had planning or market analysis components had completed them. By contrast, construction projects were the most likely to be delayed (like the 1989 grantees 1 year ago). Surprisingly, (given the experience of the 1989 grantees), 41 percent of the grantees recruiting health professionals had completed the activity after 1 year.

Two years into their projects, the 1989 grantees have overcome many of their earlier problems and have completed a much larger proportion of their planned activities, and in general are further along than the 1990 grantees. Two-thirds of the construction funded by the grants is now complete, and over half of the equipment purchases have been made. Almost half of the projects that were undertaking strategic planning and market analyses have completed these activities. The hospitals report lower completion rates for service implementation, though about half of the inpatient and swing bed projects are complete. The hospitals are least likely to report outpatient, clinic, and patient services as complete (even when the service has been implemented). Grantees continue ongoing activities such as staff training and recruitment.

Visits to 18 of the 1989 grantees, 12 of the 1990 grantees, and telephone discussions with 15 previously visited 1989 grantees confirm the progress reported in written reports. Highlights of the successes among the visited 1989 grantees are:

- All grantees undertaking strategic planning completed the information gathering parts of their projects and moved on to service implementation, physician recruitment, or preparations for construction;
- Of the 14 projects planning to implement outpatient and/or primary care services, 11 implemented the service and 10 continue to provide it;
- Seven hospitals planned additional inpatient services; six have implemented the service; and
- Five hospitals planned to recruit physicians; four have been successful at recruiting and retaining a physician and the fifth recruited a physician but lost him after less than 2 years.

Highlights of the successes among the 1990 grantees are:

- Four of six grantees that were adding a primary care service have implemented it; and the others are in the midst of construction projects to house the service;
- Two inpatient projects (conversions of acute-care beds to nursing-home beds) have started construction for the conversion; and
- Three of six physician-recruiting projects have already recruited a physician.

Both 1989 and 1990 grantees attribute project success to the financial support offered by the grant, the dedicated staff at the hospital, and support from and coordination with other organizations. In addition, more than half of the 1989 grantees attributed project success to filling a demand for a health care service and nearly half of the 1990 grantees attributed success to having developed a viable strategic plan.

The principal difficulties the grantees reported in implementing their projects are in recruiting and retaining health professionals and coordinating with other organizations. From time to time, grantees also reported disruption of or lack of support for grant projects by physicians and hospital staff. While some of these problems could be corrected by better communication among hospital boards, administrators, staff, physicians and the community, some problems are outside their control. For example, two projects that wanted to implement rural health clinics encountered bureaucratic problems with certification by the Medicare carrier that indicate the need for better training of carrier staff (these two grantees were the first rural health clinics in their States).

1989 and 1990 Grant Impacts on the Hospital and Community. Among the 45 visited grantees, the majority believe the grant project has helped finances by attracting patients and physicians and offering new services. Though revenue from services added using grant funds has been modest in most cases (ranging from \$36,000 to \$200,000 among 1989 grantees) revenue exceeded \$1 million at two grantees that introduced inpatient services.

Regardless of revenue generated, many of the grantees indicated that the grant had positive effects on staff morale and public relations and that it improved communications among hospital and physicians and other providers. No area health care providers appear to have been financially hurt by the grant projects, and some have clearly benefited.

Access to health-care services initiated under the grant has resulted in considerable numbers of patients receiving services that they might otherwise have gone without or travelled further for. Among the 45 visited grantees, annual estimates of patients seen or visits provided in inpatient and outpatient settings total 2,573 patients and 12,294 visits. In addition, an unmeasured number of patients have received services from the physicians recruited using grant funds, and others have used transportation, well-patient, education, and lifeline services.

1991 Grant Applicants and Awardees. In 1991, 445 grant applications were received from hospitals in 42 States. Eligible hospitals in the North Central region had the highest application rate (29 percent) and those in the Northeastern region had the lowest application rate (21 percent). Texas had the largest number of applicants (41) and North Dakota had the highest application rate of any State with more than one eligible hospital (76 percent).

The areas in which the applicant hospitals are located are scarcely populated (averaging 20 persons per square mile), have a high proportion of the elderly (15 percent), have populations that are 92 percent white, and have annual per capita incomes of \$11,521. Over half (53 percent) of the areas where applicants are located are designated as Primary Care Health Professional Shortage Areas. The applicant hospitals' areas differ from the areas of eligible rural hospitals nationwide in the following aspects. Applicant hospitals are in more scarcely populated areas (20 persons per square mile relative to 25 persons per square mile); they have smaller black populations (4.7 percent compared to 6.7 percent); and they are less likely to be designated as health professional shortage areas (47 percent relative to 49 percent). These differences are largely the result of the high application rate from the North Central region.

Grantees were selected based on merit and to achieve an equitable geographic distribution across States. On September 15, 1991, HCFA awarded 187 grants to 187 hospitals for a total grant funding of \$8,173,439. Three of the grants were refused by the hospitals (two hospitals had closed since they applied for the grant and one voluntarily withdrew from the program).

Compared with the 1989 and 1990 grantees, the 1991 grantees are located in far less populated areas (17 persons per square mile relative to 22 percent or more) and have smaller black populations (4.5 percent relative to the 1989 grantees who had a 6.4 percent black population). These differences are again attributable to a shift in the geographic distribution of grantees from the Northeast and South to the North Central and West regions.

L. INTRODUCTION

A. LEGISLATIVE HISTORY AND PURPOSE OF THE GRANT PROGRAM

Congressional concerns about the problems of rural hospitals and access to health care for the residents of rural areas led to the enactment of the Grant Program for Rural Health Care Transition. In the legislation, Congress mandated that the Health Care Financing Administration (HCFA) "establish a program of grants to assist eligible small rural hospitals and their communities in the planning and implementation of projects to modify the type and extent of services such hospitals provide in order to adjust one or more of the following factors:

- (1) Changes in clinical practice patterns
- (2) Changes in service populations
- (3) Declining demand for acute-care inpatient hospital capacity
- (4) Declining ability to provide appropriate staffing for inpatient hospitals
- (5) Increasing demand for ambulatory and emergency services
- (6) Increasing demand for appropriate integration of community health services
- (7) The need for adequate access to emergency care and inpatient care in areas in which a number of underutilized hospital beds are being eliminated."¹

¹Omnibus Budget Reconciliation Act of 1987 (P.L. 100-203), Section 4005(e).

The legislation further stipulated that "a grant may not exceed \$50,000 a year and may not exceed a term of two years."² Funds may be spent for any expenses incurred in planning and implementing the project with two exceptions: no part of the grant funds may be expended to retire debt incurred before September 15, 1989;³ and, not more than one-third of the grant funds may be used for capital-related costs. The legislation mandated that grantees had to be non-Federal, nonproprietary, short-term, general acute-care hospitals with fewer than 100 beds. And, grantees had to be paid as rural hospitals under Medicare's Prospective Payment System to be eligible for the program.

In the Omnibus Budget Reconciliation Act of 1989 (P.L. 101-239), Congress made two modifications to the Rural Health Care Transition (RHCT) grant program. First, the grant period for hospitals receiving an award after fiscal 1989 was extended from 2 to 3 years. Second, hospitals that use the grant to convert to a rural primary care hospital are not limited to the one-third capital expenditure maximum. In addition, Congress provided \$17.8 million to fund the second year of the fiscal 1989 grants and the first year of the fiscal 1990 grants. In fiscal 1991, Congress provided an additional \$24.4 million to fund the third year of the fiscal 1989 grants, the second year of the fiscal 1990 grants, and the first year of the fiscal 1991 grants.

²Ibid.

³Date of grant award.

B. NUMBER AND STATUS OF GRANTEES

1. 1989 Grantees

The majority of the 184 RHCT grants HCFA awarded on September 15, 1989, remain active 24 months later (see Table I.1). As of September 15, 1991, 147 hospitals are still working on 149 grant projects. The continuing hospitals are listed in Appendix A. Only one hospital left the grant program without completing its project in the past 6 months; it ceased hospital operations.

Of the 35 projects no longer receiving grant funds, 26 were completed: 5 in the first year and 21 in the second year. Four of the grantees completing their projects in the first year were members of a consortium teleradiology project in Nevada. The fifth, Boone County Community Hospital in Nebraska, completed its service assessment and cost-reduction plan and is continuing with another RHCT grant project. The 21 grantees completing projects in the second year did not seek funding for a third year.

Four of the 35 grantee hospitals voluntarily terminated their grants, 2 at the time of the award and another 2 at the end of the first year. Another four facilities, one in each 6-month period, discontinued their grant projects after they could no longer continue to operate as acute-care hospitals. In only one instance was it necessary for HCFA to deny continued grant funding because of a hospital's failure to comply with the terms and conditions of the grant.

TABLE 1.1
1989 GRANTEE STATUS

	Time Period					Cumulative 9/15/89 9/15/91
	At Award 9/15/89	Month 6 3/15/90	Month 12 9/15/90	Month 18 3/15/91	Month 24 9/15/91	
Number of Grantees (Hospitals) at Start of Period	184 (181)	182 (179)	181 (178)	172 (170)	171 (169)	184 (181)
Number of Voluntary Terminations in Period	2 ^{a,b} (2)	0	2 ^{a,b} (2)	0	0	4 (4)
Number of HCFA Terminations in Period	0	0	1 ^j (1)	0	0	1 (1)
Number of Hospitals Ceasing Operations and Terminated in Period	0	1 ^d (1)	1 ^m (1)	1 ^p (1)	1 ^q (1)	4 (4)
Number Completed in Period	0	0	5 ^{k,l} (4)	0	21 ^r (21)	26 (25)
Number Remaining at End of Period	182 (179)	181 (178)	172 (170)	171 (169)	149 (147)	149 (147)
Other Changes:						
Ceased hospital operations but still grantee	1 ^c (1)	2 ^{a,l} (2)	1 ⁿ (1)	0	0	4 ^a (4)
Changed scope	0	1 ^h (1)	0	0	0	1 (1)
Other	0	1 ^o (1)	0	0	0	1 (1)

- a Breckinridge Memorial Hospital, Kentucky
b Arkansas Memorial Hospital, Arkansas
c Caledonia Health Care Center, Minnesota
d Salamanca District Hospital, New York
e Presbyterian Family Health Care, New Mexico
f St. Mary's Hospital and Home, Minnesota
g Presbyterian Family Health Care, New Mexico
h Rangely District Hospital, Colorado
i Wilson Memorial Hospital, Texas
j Calhoun General Hospital, Florida
k Churchill Regional Medical Center, Nevada
Elko General Hospital, Nevada
Mt. Grant General Hospital, Nevada
Nye Regional Medical Ctr., Nevada
l Boone County Community Hospital, Nebraska
m St. Luke General Hospital, Louisiana
n LaHarpe Hospital Association, Illinois
o Webster General Hospital, Mississippi
p Corning Community Hospital, Arkansas
q Baxter Memorial Hospital, Kansas
r Grantees not extending grant funding for 3rd year.
s Two of these grantees continue into the 3rd year.

2. 1990 Grantees

On September 15, 1990, HCFA awarded 212 grants to 211 hospitals. The majority of the grants awarded in fiscal 1990 remain active 12 months later. As of September 15, 1991, 201 hospitals are working on 202 grant projects. Eight hospitals have left the grant program over the past year, and two have completed their projects.⁴

Six of the eight hospitals voluntarily discontinued their grants (see Table I.2). Four of the hospitals are located in Texas and the other two hospitals are in Kansas and Oregon. The hospitals cited various reasons for early withdrawal. One hospital elected not to accept the grant award after concluding that unanticipated administrative problems would prevent it from carrying out its grant project. Another hospital withdrew from the program when a needs assessment indicated that its project would not be utilized. Others chose not to apply for continuation funding, without citing a reason.

Two hospitals have ceased operating over the past year. Dade County Memorial Hospital in Missouri closed on May 23, 1991. The other hospital, Tri County Hospital in Michigan, closed on June 1, 1991. HCFA has not terminated any grants awarded in 1990 for noncompliance with the terms and conditions of the grant.

⁴Francis A. Bell Memorial Hospital in Michigan and Tippah County Hospital in Mississippi completed their grant projects during the second 6 months of the period.

TABLE 1.2
1990 GRANTEE STATUS

	Time Period			
	At Award (9/15/90)	Month 6 (3/15/91)	Month 12 (9/15/91)	Cumulative (9/15/90 - 9/15/91)
Number of Grantees (Hospitals) at Start of Period	212 (211)	210 (209)	210 (209)	212 (211)
Number of Voluntary Terminations in Period	2 ^{a,b} (2)	0 (0)	4 ^{c,d} (4)	6 (6)
Number of HCFA Terminations in Period	0	0	0	0
Number of Hospitals Ceasing Operations and Terminated in Period	0	0	2 ^e (2)	2 (2)
Number Completed in Period	0	0	2 ^e (2)	2 (2)
Number Remaining at End of Period	210 (209)	210 (209)	202 (201)	202 (201)
Other Changes:				
Ceased hospital operations but still grantee	0	0	0	0
Changed scope	0	0	0	0
Other	0	0	0	0

^aSeymour Hospital, Texas

^bFrio Hospital Association, Texas

^cTri County Hospital, Michigan

^dDade County Memorial Hospital,
Missouri

^eSt. Anthony Hospital, Oregon

^fMaude Norton Memorial City
Hospital, Kansas

^gTyler County Hospital District
Texas

^hThrockmorton Hospital, Texas

ⁱFrancis A. Bell Memorial
Hospital, Michigan

^jTippah County Hospital, Mississippi

3. 1991 Grantees

On September 15, 1991, HCFA awarded 187 RHCT grants to 187 hospitals. One of the hospitals, Bonner General Hospital in Idaho, declined the grant. Two other hospitals, John MacDonald Hospital in Iowa and Moshannon Valley Community Hospital in Pennsylvania, closed after applying for the grant, leaving 184 hospitals with 184 grant projects (see Table I.3).

TABLE 1.3
1991 GRANTEE STATUS

	At Award (9/15/91)	Cumulative (9/15/91)
Number of Grantees (Hospitals) at Start of Period	187 (187)	187 (187)
Number of Voluntary Terminations in Period	1 ^a (1)	1 (1)
Number of HCFA Terminations in Period	0	0
Number of Hospitals Ceasing Operations and Terminated in Period	2 ^{b,c} (2)	2 (2)
Number Completed in Period	0	0
Number Remaining at End of Period	184 (184)	184 (184)
Other Changes:	0	0
Ceased Hospital Operations But Still Grantee	0	0
Changed Scope	0	0
Other	0	0

^aBonner General Hospital, Idaho

^bJohn MacDonald Hospital, Iowa

^cMoshannon Valley Community Hospital, Pennsylvania.

II. HOSPITAL CHARACTERISTICS AND FINANCE

A. 1990 GRANTEE CHARACTERISTICS AND FINANCES

1. Management Structure

Publicly-owned hospitals face different constraints than privately-owned hospitals. Hospital board members of a publicly owned hospital must justify their actions to the voting public (who own the hospital), while managers of a private, nonprofit hospital must justify their actions to the trustees of the nonprofit corporation. Because the goals of public and private nonprofit owners differ, ownership structure can affect hospital operations (see Lindsay, 1976; Weisbrod, 1988; Weisbrod and Schlesinger, 1981). It follows that hospital ownership can affect how a particular hospital implements an RHCT grant project, including the choice of project, how a project is implemented, and whether the project is a success or a failure. Thus it will be important to consider the hospital's ownership in the evaluation of the grant program.

Fifty-four percent of the 1990 grantees are publicly owned. Nine percent are owned by a city government, 44 percent by a county government or hospital district, and .5 percent (one hospital) is owned by an American Indian Tribe (see Table II.1). In contrast, 51 percent of the 1989 grantees are publicly owned. This slight difference in the proportion of publicly-owned facilities is most likely due to random factors, but it could also reflect increased pressure from voters to find an alternative source of funding to raising local taxes for new projects.

TABLE II.1
MANAGEMENT CHARACTERISTICS AT TIME OF AWARD:
1989 AND 1990 GRANTEES

Characteristic	Distribution	
	1989 Grantees	1990 Grantees
Percent Distribution by Ownership: ^a		
City Government	9.1 %	9.3 %
County/District Government	40.0 %	44.4 %
State Government	0.0 %	0.0 %
Other Public	1.7 %	0.5 %
Private, Nonprofit	49.1 %	45.9 %
Percent of Grantees in Structured Multi-Hospital Systems:		
Not-for-Profit	21.7 %	14.1 %
For-Profit	1.1 %	2.4 %
Total	22.9 %	16.6 %
Percent of Grantees with Outside Management Contracts:		
Not-for-Profit	14.9 %	16.6 %
For-Profit	13.2 %	11.7 %
Total	28.2 %	28.3 %
Number of Grantees Reporting	175	205

- NOTES: 1. For-profit hospitals were not eligible for grants, but not-for-profit hospitals that were managed by for-profit organizations were eligible.
2. Because of differences in record keeping, some hospitals could not report all data elements. Percentages represent those hospitals that reported the data element.

^aSince first reported, hospital ownership has been updated to reflect new information submitted by the grantees.

A second important management issue for the evaluation of the grant program is whether or not the hospital operates in a multi-hospital system or under a management contract. It has been argued that hospitals that have such managerial arrangements are better managed, but there is still skepticism about the intent of multi-hospital systems and management companies.¹ Since one of the key goals of the RHCT grant program is to improve rural hospital management, it will be important to account for managerial arrangements that were in place at the start of the grant program.

Seventeen percent of the 1990 grantees were operating as part of a multi-hospital system at the time of their grant awards (see Table II.1). By contrast, 23 percent of the 1989 grantees operated as part of a multi-hospital system at award, while nationwide in 1987, 18 percent of small rural hospitals were in multi-hospital systems. The decrease in the proportion of grantees in multi-hospital systems from 1989 to 1990 is consistent with the increase in publicly-owned hospitals among 1990 grantees; fewer publicly-owned hospitals are in multi-hospital systems than privately-owned hospitals.²

The percentage of 1990 grantees with an outside management contract is 28 percent (the same proportion as the 1989 grantees). In contrast, only 19 percent of all rural hospitals nationwide had management contracts in 1987.³ A slightly higher proportion of the

¹OTA-H-434, p. 173.

²OTA-H-434, p. 176.

³OTA-H-434, 113. This figure includes rural for-profit hospitals and rural hospitals with more than 100 beds.

1990 grantees had contracts with not-for-profit management companies (17 percent) than with for-profit management companies (12 percent).

2. Beds, Occupancy Rate, and Services

The size of the hospital and the utilization of the hospital's services are two factors that are associated with an increased likelihood of closure.⁴ Since one of the goals of the RHCT grant program is to avert hospital closure, the effect of the grant program on these smaller hospitals is of particular interest in the evaluation of the program.

At the start of their grant projects, the 1990 grantees had fewer staffed beds and offered fewer services than their 1989 counterparts. Only 14 percent of the 1990 grantees have more than 50 staffed beds, compared with 21 percent of the 1989 grantees; and just 5 percent of the 1990 grantees have more than 75 beds, compared with 10 percent of the 1989 grantees. Thus the 1990 grantees are relatively smaller institutions.

Given that the 1990 grantees are slightly smaller institutions than the 1989 grantees, it is not surprising that the 1990 grantees also have lower occupancy rates—occupancy rates and hospital size have been shown to be inversely correlated.⁵ Forty-seven percent of the 1990 grantees have occupancy rates of less than 25 percent, while just 7 percent have occupancy rates that are greater than 50 percent. In comparison, 41 percent of the 1989 grantees have occupancy rates of less than 25 percent, while 11 percent have rates greater than 50 percent.

⁴GAO/HRD-91-41.

⁵OTA-H-434, p. 118.

Consistent with the smaller size of the 1990 grantees, fewer 1990 grantees offer intensive care units (58 percent of the 1990 grantees in contrast to 64 percent of the 1989 grantees) and slightly more offer swing beds (69 percent of the 1990 grantees versus 66 percent of the 1989 grantees (see Table II.2)). Hospitals with fewer than 50 beds are more likely to offer swing-bed services because hospitals of this size do not have to meet the stringent, anti-competitive requirements in order to qualify to offer swing-beds that hospitals with more than 50 beds do.

Despite their smaller size, the 1990 grantees were more likely to offer computed axial tomography (CAT) scanning services and magnetic resonance imaging at the time of grant award. Sixty-three percent of the 1990 grantees offered CAT scanning services, while only 55 percent of the 1989 grantees offered CAT services. This difference between the 1989 and 1990 grantees may reflect the spread of the technology from 1989 to 1990; CAT scanning was the second most popular service to be added among the 1989 grantees during the first grant year (5 percent of the 1989 grantees added CAT services during the first year of the grant program; see Cheh, Condon, Nagatoshi and Wooldridge, 1991).

Almost all of the 1989 and 1990 grantees offered emergency room services at the time of the award. The one hospital that did not offer emergency services had to close its emergency room when the local physician would no longer accept call. The goal of this hospital's grant project is to reopen its emergency room; it anticipated that it would provide this service again shortly.

TABLE II.2
NUMBER OF BEDS, OCCUPANCY RATE, AND SERVICES
AVAILABLE AT AWARD: 1989 AND 1990 GRANTEES

Characteristic	1989 Grantees (N = 173)	1990 Grantees (N = 205)
Percent Distribution of Grantees by Number of Staffed Hospital Beds		
1 to 25 beds	33.9 %	40.6 %
26 to 50 beds	45.2 %	45.0 %
51 to 75 beds	10.7 %	8.9 %
76 or more beds	10.1 %	5.4 %
Percent Distribution of Grantees by Occupancy Rate		
Less than 10 percent	7.0 %	10.0 %
11 to 25 percent	33.9 %	36.5 %
26 to 40 percent	32.1 %	32.0 %
41 to 50 percent	16.4 %	14.5 %
51 to 75 percent	10.5 %	6.0 %
Greater than 75 percent	0 %	1.0 %
Percent of Grantees Offering Services		
Swing Beds	65.8 %	69.3 %
Intensive Care Unit	64.0 %	57.6 %
Emergency Room	100.0 %	99.5 %
Computed Axial Tomography	54.9 %	62.9 %
Magnetic Resonance Imaging	6.2 %	8.3 %

NOTE: Because of differences in record keeping, some hospitals could not report all data elements. Percentages represent those hospitals that reported the data element.

3. Staffing

Recent research has shown that physician availability may be an important determinant of hospital closure--rural hospitals are more likely to close if physicians stop practicing in a county (Morrisey, Klerke and Marder, 1991). Thus physician staffing issues--especially whether the grant program affects physician staffing--will be a key issue for the evaluation.

The 1990 grantees have an average of 9.5 physicians on staff--approximately 1 fewer physician, on average, than the 1989 grantees but still greater than the national average of 8.4 physicians for hospitals with fewer than 100 beds (see Table II.3).⁶ The smaller number of physicians on staff may be due to the relatively smaller size of the 1990 grantees--smaller hospitals that serve fewer residents require fewer physicians. However, the smaller number of physicians may be the reason why the 1990 grantees chose to staff fewer beds. That is, the 1990 grantees may staff fewer beds, employ fewer staff, and have lower revenues than their 1989 counterparts because they have fewer physicians. As Table II.3 shows, the 1990 grantees were each actively recruiting an average of 2.8 physicians at the time their grants were awarded, while the 1989 grantees were actively recruiting only 1.2 physicians. If one adds the number of physicians on staff with the number of physicians being recruited, the 1990 grantees would have more physicians on staff. Thus, one potential explanation why the

⁶This national average includes only general/family practice, general internal medicine, pediatrics, obstetrics/gynecology and general surgery; it does not include the few specialists on staff.

TABLE II.3
PHYSICIAN STAFFING AT AWARD: 1989 AND 1990 GRANTEES

Characteristic	1989 Grantees (N = 173)	1990 Grantees (N = 205)
Average Number of Physicians on Staff	10.4	9.5
Average Number of Physicians Being Actively Recruited	1.2	2.8
Percent of Hospitals Recruiting a Physician	54.0 %	77.0 %
Percent of Hospitals with Internal Medicine Services	63.8 %	64.9 %
Percent of Hospitals with General Surgeon Services	92.0 %	85.4 %

NOTE: Because of differences in record keeping, some hospitals could not report all data elements. Percentages represent those hospitals that reported the data element.

1990 grantees are smaller is that they had a greater need for physicians at the time of their grant award.

Consistent with fewer staffed beds and fewer physicians on staff, the 1990 grantees also have fewer nurses than the 1989 grantees. The 1990 grantees have, on average, one less full-time licensed practical nurse than their 1989 counterparts (see Table II.4). The 1990 grantees were recruiting slightly fewer nurses and had slightly fewer registered nurses, aides and orderlies on staff, although the differences were quite small--less than one full-time staff position.

The number of physical therapists on staff is just about the same for the 1989 and 1990 grantees; each employed or contracted for approximately one physical therapist per hospital (see Table II.4). This counter-intuitive finding--that the relatively larger hospitals employ the same number of physical therapists--may be due to the shortage of physical therapists.

B. GRANTEE FINANCIAL PERFORMANCE

1. Financial Status Prior to Award: 1989 and 1990 Grantees

Hospitals with stronger finances are more likely to operate their grant projects successfully. This is partly because financially sound hospitals are more likely to have funds other than the grant to support their projects, thus facilitating the projects. Moreover, the managers of financially strong hospitals may have more time to devote to their projects because they spend less time on immediate financial problems.

TABLE II.4
NONPHYSICIAN STAFFING AT AWARD: 1989 AND 1990 GRANTEES

Characteristic	1989 Grantees (N = 174)	1990 Grantees (N = 205)
Registered Nurses		
Average number of FTEs	23.8	23.6
Average number being actively recruited	3.0	2.5
Licensed Practical Nurses		
Average number of FTEs	12.4	11.4
Average number being actively recruited	1.6	0.8
Aides and Orderlies		
Average number of FTEs	13.0	12.7
Average number being actively recruited	1.1	0.8
Physical Therapists		
Average number of FTEs	1.0	1.1
Average number being actively recruited	0.3	0.2

NOTE: Because of differences in record keeping, all hospitals could not report all data elements. Percentages represent those hospitals that reported the data element.

FTE: Full-Time Equivalent.

The 1990 grantees have fewer staffed beds, physicians, and nurses than the 1989 grantees, which is reflected in their revenue from the year prior to the grant award. The median revenue in the fiscal year before the award is almost \$1 million⁷ less, without accounting for inflation (see Table II.5).⁷ However, the median ratio of total liabilities to total assets (a measure of relative debt burden) and the median operating margin is about the same for both the 1989 and 1990 grantees. Thus, the 1990 grantees start from levels of debt burden and operating losses in the same proportion to their size as the 1989 grantees, but they start their projects with less revenue.

More of the 1990 grantees qualify for special Medicare reimbursement status than their 1989 counterparts at award. A higher proportion of the 1990 grantees are sole community hospitals (29 percent of the 1990 grantees versus 21 percent of the 1989 grantees) and disproportionate share hospitals (14 percent of the 1990 grantees versus 9 percent of the 1989 grantees).⁸ As a result of special reimbursement status, the 1990 grantees may receive higher Medicare reimbursement during their grant period, which may help them successfully complete their projects.

⁷Revenues include both operating and nonoperating revenues for inpatient as well as outpatient services.

⁸The difference in the proportion of sole community hospitals may be due to the timing of the project starts. Until April 1, 1990, the payment options for sole community hospitals actually reimbursed some eligible hospitals less than the usual Medicare prospective payment rates (OTA-H-434, p.65). After April 1, 1990, it became financially beneficial for more hospitals to have sole community hospital status, and, as a result, more hospitals sought such status. Thus, the relatively higher proportion of sole community hospitals among 1990 grantees may only reflect differences at grant award that will not persist throughout the entire grant period.

TABLE II.5
FINANCIAL INDICATORS IN FISCAL YEAR OF AWARD:
1989 AND 1990 GRANTEES

Characteristic	1989 Grantees (N = 175)	1990 Grantees (N = 205)
Median Total Liabilities: Total Assets	0.46	0.42
Median Operating Margin ^a	-0.04	-0.05
Median Revenue in Fiscal Year Before Award ^b	\$4,506,574	\$3,629,140
Percent Grantees with Reimbursement Status as:		
Sole community hospital	21.1%	29.3%
Disproportionate share hospital	9.1%	13.7%

NOTE: Because of differences in record keeping, some hospitals could not report all data elements. Percentages represent those hospitals that reported the data element.

^aDefined as $\frac{\text{Net Patient Service Revenue} - \text{Operating Costs}}{\text{Net Patient Service Revenue}}$

^bRevenue includes both operating and nonoperating revenues, inpatient as well as outpatient.

2 Performance of the 1989 Grantees Before and After Award

Among the 1989 grantees the median operating margin was negative in the 2 fiscal years before award and the fiscal year after award (see Table II.6). Forty-six percent of the grantees had negative operating margins in all 3 years and only 17 percent of the grantees had positive operating margins in all 3 years. The remaining 37 percent had operating margins that fluctuated between positive and negative. This fluctuation indicates how weak and volatile the grantees' finances are.

The financial performance of the 1989 grantees has been marginal over the past 3 years. The median operating margin in the 2 fiscal years before the grant award for grantees that operated as hospitals both before and after receiving grants was -.03 and -.04. In the first year after the award, the median operating margin improved slightly to -.02. Thus, any financial gains realized by the grant projects were not large enough to offset the typical grantee's operating losses in this period. Since many grantees used the first year of the grants to plan their projects, we did not expect to find much improvement in finances. Thus, this slight improvement is encouraging.

One would have expected the ratio of total liabilities to total assets to increase in the year after the award as the grantees with construction or renovation projects borrowed funds to finance the projects. However, this ratio remained fairly constant over the 3-year period, falling just slightly from .49 to .44. There are three reasons why the debt burden did not increase as expected. First, some of the construction or renovation projects were part of larger projects for which the capital financing had already been obtained at the time of

TABLE II.6
FINANCIAL PERFORMANCE OVER TIME:
1989 GRANTEES

	Fiscal 1988 Two Years Prior to Award	Fiscal 1989 One Year Prior to Award	Fiscal 1990 One Year After Award
Median Total Liabilities: Total Assets	0.49	0.46	0.42
Median Operating Margin ^a	-0.03	-0.04	-0.02
Median Revenue ^b	\$4,632,144	\$5,102,271	\$5,775,790
Inflation Adjusted Median Revenue (Base = 1984) ^c	\$3,342,095	\$3,417,462	\$3,547,782

NOTE: The 127 hospitals reporting 3 years of consecutive data as of this report date are included in this table.

^aDefined as $\frac{(\text{Net Patient Service Revenue} - \text{Operating Costs})}{\text{Net Patient Service Revenue}}$

^bRevenue includes both operating and nonoperating revenues, inpatient as well as outpatient.

^cFigures were adjusted for inflation using *The Survey of Current Business* commodity prices for medical care, year end figures.

award. Second, some of the grantees did not have to borrow money to finance their projects; and third, in some cases the local government, not the hospital, borrowed the capital funds.

Finally, the median revenue at the grantee hospitals increased over this period--from just over \$4.6 million 2 fiscal years prior to the awards (fiscal 1988) to \$5.8 million in the first fiscal year after the award (fiscal 1990) (see Table II.6). The 10 percent increase in revenue between fiscal 1988 and 1989 and the 13 percent increase between fiscal 1989 and 1990 are mainly due to inflation. However, after adjusting for inflation in medical costs by using a year-end inflation adjustor, we still find that the median hospital's revenues increased over this period--by 2 percent from fiscal 1988 to 1989, and by 4 percent from fiscal 1989 to 1990. Part of this increase can be attributed to the change in Medicare reimbursement for sole community hospitals and Medicare dependent hospitals, but part of it may be due to revenue generated by the projects. Projects that were implemented soon after the grant was awarded in 1989 may have generated revenue that would accrue to hospitals in fiscal 1990.

III. 1989 AND 1990 GRANTEE PROGRESS BASED ON SITE VISITS

Site visits to monitor the progress of grantee hospitals provide information on factors that lead to successful grant project implementation or to delays and problems. Therefore, a large number of 1989, 1990, and 1991 grantees are being visited during the course of their 3-year grant projects. During site visits a variety of hospital staff and other providers in the area are asked to provide information about the hospital's service area, finances, staffing, management, and the main problems the hospital faces. Grant project staff also discuss project implementation, recent achievements, and reasons for success and failure that may be understated in written semi-annual progress reports. Once rapport has been achieved through a site visit, telephone follow-up is also used to collect detailed data without incurring travel costs.

During the first 15 months of their projects, 20 of the 1989 grant projects were visited: 19 individual grantees and one consortium project of 3 grantees.¹ Grantees were selected to represent all four geographic regions, a diversity of project objectives, different hospital management structures, and different levels of success at implementing the planned project (based on self-report). These 22 grantees (all but two of which will continue their grant

¹Seventeen of these site visits were described in the third semi-annual report to Congress.

projects for a third year) have been either visited or followed up by telephone near their second-year anniversaries.²

Ten additional 1989 grant projects (nine individual grantees and one consortium project of two grantees) were visited at the end of their second year in the fall of 1991. Like the 1989 grantees visited in 1990, these additional 11 grantees were also selected to represent all four geographic regions. Two other factors were used to select these 11 grantees. Larger hospitals (which are less likely to have financial difficulties that result in closing) were slightly over-represented. Second, grantees who had made significant progress in their projects (based on their 18-month self-reports) were selected so that factors leading to project success could be examined more closely than the self-reports every 6 months allow.

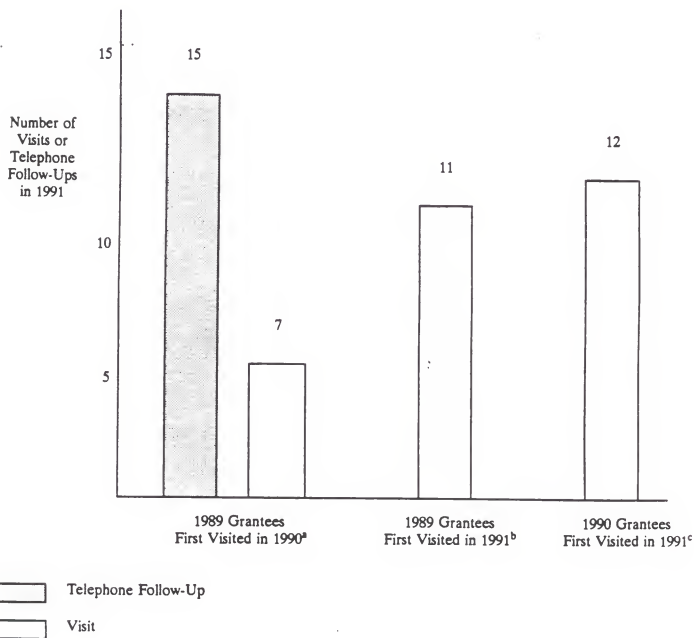
And finally, 10 1990 grant projects were visited at the end of their first grant year (9 individual grantees and 1 consortium of 3 grantees). These 12 grantees were also selected to represent diverse grant objectives and to overrepresent larger hospitals.³ Furthermore, only grant projects that planned to run for 3 years were selected. Figure III.1 shows the number of visits and telephone follow-ups by year of visit and grantee year.

²One of the three consortium grantees has since been sold and terminated its grant at the end of the second year: this grantee was neither visited nor telephoned, though information on its progress was available from the previous owner. Another grantee hospital chose not to apply for third-year grant funding.

³Only 8 percent of 1989 and 1990 grantees have more than 75 beds, but 14 percent of the grantees visited have more than 75 beds.

FIGURE III.1

NUMBERS OF GRANTEES VISITED OR FOLLOWED-UP BY TELEPHONE IN 1991



^a19 individual projects and 1 consortium of 3 grantees.

^b9 individual projects and 1 consortium of 2 grantees.

^c9 individual projects and 1 consortium of 3 grantees.

This chapter discusses the findings of the site visits and telephone follow-up, focusing on:

- Hospital characteristics
- Grant project objectives and implementation
- Project successes and problems
- Impacts of the grant projects on the hospitals and the communities they serve

The chapter closes with a discussion of financial record reviews completed during visits to 30 grantees in 1991.

A. HOSPITAL CHARACTERISTICS

1. Geographic Distribution of Visited Grantees

The 40 grant projects visited to date include 45 grantees. Of the 45 grantees visited, 2 are in the Northeast region, 20 are in the North Central region, 17 are in the South, and 6 are in the West (see Table III.1). This distribution parallels the distribution of grantees overall.

2. Ownership and Management

The grantees visited represent a full spectrum of ownership and management types. Half of the visited grantees are publicly owned (by the city, county, or hospital district) and half are privately owned (by hospital systems, foundations, and hospital associations). Among the 23 publicly owned hospitals, 15 are managed independently and 8 are managed under

TABLE III.1
CHARACTERISTICS OF VISITED GRANTEES

Characteristics	1989 Grantees		1990 Grantees		Total	
	Number	Percent	Number	Percent	Number	Percent
Distribution by Geographic Region						
Northeast	2	6 %	0	0 %	2	4 %
North Central	15	45 %	5	42 %	20	44 %
South	11	33 %	6	50 %	17	38 %
West	5	15 %	1	8 %	6	13 %
Distribution by Ownership						
Publicly owned	16	48 %	7	58 %	23	53 %
Privately owned	17	52 %	5	42 %	22	49 %
Distribution by Management						
Independent hospital, no management contract	17	52 %	8	67 %	25	56 %
Independent hospital, with management contract	3	9 %	3	25 %	6	13 %
Multi-hospital system	13	39 %	1	8 %	14	31 %
Distribution by Size						
Less than 25 beds	9 ^a	29 %	7	58 %	16 ^a	37 %
26 to 50 beds	15	48 %	3	25 %	18	42 %
51 to 75 beds	2	6 %	1	8 %	3	7 %
76 to 100 beds	5	16 %	1	8 %	6	14 %
Total Number of Grantees	33	100%	12	100 %	45	10 %

NOTE: Each grantee is counted once, even if visited twice. Each consortium site visit is counted as two or three, depending on the number of grantees in the consortium.

^aExcludes two which are no longer hospitals.

a contract with an outside organization. Ten of the 22 privately-owned hospitals are owned and managed independently and 1 is independent but managed under contract. Among the 11 privately-owned hospitals that are part of multi-hospital systems, 7 are managed independently, and 4 are managed by the system.

3. Size of Hospitals and Distance to Tertiary Care Hospitals

As required by the legislation, grantees must be rural hospitals with fewer than 100 beds. The 43 hospitals visited (2 grantees are no longer acute-care hospitals) range in size from 8 to 101 staffed beds, with 16 (37 percent) having fewer than 25 beds and 6 (14 percent) having more than 75 beds.⁴

The average travel time to the nearest tertiary care hospital is about an hour and a half (mean is 88 minutes, median is 75 minutes), though travel time ranges from 20 minutes to 5.5 hours. However, the median travel time to the nearest acute-care hospital is only 30 minutes, with a range of 5 minutes to 5.5 hours.

4. Management and Finances

We wanted to know whether hospital management problems had impeded progress with the grant projects. Because these rural hospitals are so small, changes such as the loss or gain of one physician in the area or changes in practice such as ceasing to provide emergency room coverage or obstetric services may have a major effect on the hospital.

⁴One hospital has over 100 staffed beds. This hospital is in the process of expanding, and at the time it won its grant it had fewer than 100 beds.

Administrators, board members, and chief financial officers were asked to describe the most critical management and financial issues they had dealt with recently.⁵ The importance and difficulty of recruiting new physicians, both to replace those who left and to add new services, was the most common management issue (mentioned at 16 hospitals) and the most common financial issue (mentioned at 16 hospitals). In all, 24 grantees, or 55 percent, mentioned physician recruiting as either a critical management or critical financial issue.⁶ Hospitals recognize that physician recruitment is the key to higher occupancy, increased outpatient service provision and financial soundness.

Financial problems, including cash flow problems, cost control, and low utilization resulting in low revenues, were mentioned as major management issues at 12 hospitals. Other issues singled out by more than one hospital included: hiring a new administrator or new management contractor (seven hospitals), dealing with low salaries (three hospitals), poor staff management skills (three hospitals), major construction (three hospitals), and disputes with physicians (two hospitals).

The grant program is intended to improve rural hospital financial viability by introducing new services, planning for change, recruiting health professionals, or other

⁵The remainder of this chapter describes 44 grantees that were visited or contacted by telephone in 1991. One grantee had been sold, and information about this grantee was limited to how the grant funds had been spent.

⁶Thirteen additional grantees (30 percent) were recruiting one or more physicians but did not single out this activity as a problem. Of 44 grantees visited or contacted in 1991, 34 (77 percent) are known to be actively recruiting 1 or more physicians. The predominant specialties being recruited are family practice, internal medicine, orthopedic surgery, and obstetrics-gynecology.

changes. The financial strength of the visited grantees is variable. Fifteen of the 44 grantees (34 percent) appear to be in good financial condition (no financial losses in the past 3 years and financial condition described as good or excellent by the administrator or chief financial officer). Eighteen (41 percent) describe their financial condition as acceptable, and 11 (25 percent) either describe their financial condition as poor or report financial losses in at least 2 of the 3 previous years. In all three categories, respondents used words like "fragile," "tenuous," "precarious," and "good but tiring," to indicate the potential for sudden change in their financial condition. The fragility of many of these small rural hospitals and the factors leading to sudden change are discussed further in Section III. A.6.

Small hospitals have lower occupancy rates and more variability in census than larger hospitals, both of which contribute to uncertain finances and higher rates of closure. All of the 11 hospitals in poor financial condition have occupancy rates of staffed beds under 50 percent and 7 have occupancy rates under 33 percent (1 as low as 8 percent). By contrast, among the 15 hospitals in good financial condition, only 7 have occupancy rates under 50 percent and only 2 have occupancy rates under 33 percent.

Another critical factor in financial viability mentioned by grantees is inadequate Medicare reimbursement. Thirteen grantees stated that Medicare inpatient reimbursement is too low, of which five attribute the problem to large numbers of Medicare patients or high rates of uncompensated care to Medicare patients. Some of the hospitals that said reimbursement was inadequate have enhanced Medicare reimbursement for inpatients under

the Medicare Dependent or Sole Community Hospital provisions. Five of the 13 grantees that state Medicare reimbursement is too low have enhanced reimbursement, 2 as Sole Community Hospitals, and 2 as Medicare Dependent Hospitals. Among the grantees who do not have enhanced Medicare reimbursement, 12 have Medicare admission rates over 50 percent of all admissions; 3 of these 12 complained that Medicare reimbursement is too low.⁷

Finally, four hospitals criticized the Medicare payment mechanism, especially slow payments and major underpayment errors by the fiscal intermediary, that are a financial strain for small hospitals. Only one of these hospitals reported good financial status.

5. Community and Hospital Interaction and Support

In the third report to Congress on the RHCT grant program, we noted the importance of mutual cooperation among the hospital, physicians, and local community for hospital viability and successful grant implementation. In the 1991 visits, we examined this topic in more detail.

Community support for a local hospital includes financial help (through taxation and donations), providing in-kind services, and using the local hospital rather than out-of-town hospitals. Financial support is widespread and often substantial. More than half

⁷Nineteen of the 45 site-visit grantees have either sole community hospital or Medicare-dependent enhanced reimbursement status.

55 percent) of the hospitals receive more than \$100,000 per year from taxes or donations, though there seems to be no relation between current financial status and amount of recent financial support. Table III.2 shows the types and amounts of financial support grantees receive from various sources.

Twenty-three of the 44 grantees (just over half) received local tax support in the past year; 13 of the 23 received \$100,000 or more. Most publicly-owned hospitals receive some tax support (83 percent), whereas only 19 percent of privately-owned hospitals receive any tax support. Public hospitals that are managed directly are most likely to have tax support (87 percent), whereas public hospitals managed by an outside contractor are slightly less likely to have tax support (75 percent). Property taxes and sales tax are the most common means of tax support with mill levies ranging from \$.17 to \$.50 per \$1,000 assessed value. Some hospital authorities and local governments provide large amounts annually (up to \$900,000); others provide smaller amounts for ambulance subsidies or nonrecurring contributions for special projects. For example, two publicly-owned 1989 grantees received tax support of \$20,000 and \$50,000 in the last year but had not received any tax support in the previous year.

Community financial donations are collected through hospital foundations, annual donations, and special fund drives. Thirteen hospitals have foundations and two more are considering starting one. Five of the foundations raised amounts over \$100,000 per year and 2 years ago, one of the foundations raised \$1.5 million to fund equipment purchases. Half

TABLE III.2
FINANCIAL SUPPORT IN LAST YEAR:
GRANTEES VISITED IN
1990 AND 1991

	1989 Grantees	1990 Grantees	Total	
			Number	Percent
Tax Support				
None	18	2	20	45 %
Less than \$50,000	3	} 5 ^a	} 11	} 25 %
\$50,000 - \$100,000	3			
More than \$100,000	8	5	13	30 %
Hospital Foundation Support				
No foundation	24	5	29	66 %
Less than \$50,000	4 ^b	5 ^c	9	20 %
\$50,000 - \$100,000	1	0	1	2 %
More than \$100,000	3	2	5	11 %
Other Financial Support				
None	12	5	17	39 %
Less than \$50,000	13	4	17	39 %
\$50,000 - \$100,000	1	1	2	5 %
More than \$100,000	6	2	8	18 %
All Sources				
No Support	5	0	5	11 %
Support Less than \$100,000	11	4	15	34 %
More than \$100,000	16	8	24	55 %
Number of Grantees	32	12	44	100 %

^aAmounts not specified.

^bIncludes two just starting up.

^cIncludes two, amount not specified.

of the grantees receive community donations of \$10,000 or more per year; eight of these raised or donated \$100,000 or more within the last 2 years.

Communities often provide in-kind support through volunteer hospital auxiliaries. Overall, 70 percent of the grantees mentioned they have an active auxiliary. Absence of a strong and involved hospital auxiliary is a better indicator of poor financial status than absence of financial support. Among the 15 grantees in strong financial condition, 14 (93 percent) have an active auxiliary, 2 of which say that the auxiliary is very strong or involved. Among the grantees in poor financial condition, five (45 percent) say that either they have no auxiliary or it is not very active.

Although many of the hospitals provide health fairs, encourage staff involvement in civic groups (for example, by paying membership fees), and work closely with their physicians (many of whom are involved in community activities), the level of mutual support and involvement among hospital, physician, and community appears highest among the hospitals in strong financial condition. Which is the cause and which is the effect is not clear. In one such supportive community, the mayor is heavily involved in physician recruitment activities; in another, the hospital has designated a vice president for outreach who is developing health education classes. Physicians give public lectures in another community. Although some of the hospitals in poor financial condition describe the same sort of activities, several instances of poor cooperation were mentioned. At one hospital the administrator reported that the staff blame each other for problems instead of resolving them. At another, the respondents reported that they are not encouraged to take part in community activities, and

another hospital mentioned lack of physician involvement in the community because the physician was not fluent in English.

Mutual agreement between physicians, the administration, and the board of the hospital on the hospital's purpose and future plans is extremely important for hospital financial viability since uncooperative physicians can cause major disruptions in hospital finances and long-term plans. Physician cooperation and involvement with the hospital can be enhanced in various ways. About half of all grantees have a medical staff member on the board (often the immediate-past chief of medical staff in hospitals where this is a rotating position), though this does not necessarily result in advantageous transition planning if the physician is financially conservative or opposed to change. Having a joint committee of the medical staff and board was mentioned by several hospitals as an alternative way of maintaining constructive dialogue between board and physicians.

Physicians cooperate with hospitals in many ways. For example, two grantees stated that the physicians choose not to compete with the hospital in such areas as laboratory testing. Some physicians help the hospitals to recruit new physicians. Conversely, physicians can undermine hospitals by their actions in the same areas. For example, physician recruitment is very difficult if the local physicians do not agree with the recruiting goals and passively or actively try to block recruiting efforts (discussed further in Section III. C.2, where problems implementing grant projects are reviewed). Another failure to cooperate cited by two grantees occurred when physicians chose not to refer patients to new services developed under the grant (a ventilator program and a mammography service); in the latter

case, physicians said that they are concerned about the quality of the service provided at the grantee hospital. Good communication with physicians that ensures such problems are discussed and resolved is pursued assiduously by the most successful administrators and boards.

6. Volatility

Small hospitals are strongly affected by even minor changes in management, physician practice patterns, levels of service use, and financial support. Moreover, small hospitals have limited numbers of staff and, in very small hospitals, limited managerial skills other than the administrator. Few of the grantees visited have sufficient financial reserves to endure long periods of operating loss.⁸ We found that 6 of the 22 1989 grantees visited in 1990 had improved their financial condition markedly over the last year, while 7 had deteriorated (smaller profits or increased losses). Several hospitals lost money or came close to losing money because of physician losses. One of the larger hospitals lost three specialists which resulted in a change in its financial situation from \$1 million profit to break even. Another hospital lost \$250,000 after it lost three physicians. Conversely, the hospitals which showed improvements in financial status had increased admissions and outpatient services as a result of adding physicians.

⁸An exception is those hospitals and clinics owned by outside systems which decide to subsidize a facility that is losing money to meet overall system public relations and utilization goals. Two grantees in poor financial condition fall into this category.

Turnover in administration may also impact overall hospital viability, and hence grant project implementation (positively if a strong administrator arrives, negatively if there is an interim administrator). Rural hospitals report high rates of turnover of their chief executive officers. Among 1989 grantees, the annual percent of hospitals with at least one change in administrators is 21 percent.⁹ The grantees we visited were no exception. Among the 23 hospitals visited for the first time in 1991, 15 had a new administrator in the last 3 years (an average annual rate of turnover of 22 percent). Four of these 15 hospitals have had several administrators.¹⁰

We also found high turnover rates in management contractors, even though many small hospitals enter into management contracts in the belief that they provide stable administration and critical management, legal, and financial resources. Five of the 23 hospitals visited in 1991 for the first time had dropped a management contract in the last 3 years (returning to independent management) and 1 had changed its management contractor.¹¹ Among the 22 1989 grantees revisited or followed up in 1991, 4 had a new administrator in the last year (18 percent). These are high rates of change in leadership.

⁹As reported in the fourth report to Congress, 33 percent changed administrators in the 18-month period after applying for a grant. This is a 21-percent annual rate of change.

¹⁰One of these hospitals had three administrators during 1991, before the site visit in September. The permanent administrator at the time of the site visit had quit by December 1991.

¹¹Two entered into management contracts for the first time in the 3 years before the visit.

The managed and multi-hospital system grantees had higher rates of administrator turnover than the independently-managed hospitals.¹² All of the hospitals visited for the first time in 1991 with a poor financial status had experienced a change in administrator during the past 3 years.

B. PROJECT OBJECTIVES AND IMPLEMENTATION

1. Objectives

The objectives of the projects implemented by the 45 grantees visited in 1990 and 1991 are diverse and often multiple (similar to those of the grantee projects in general). Outpatient service addition or enhancement is the most common objective; 22 grantees (almost half) are adding services such as rural health clinics, outpatient oncology clinics, and outpatient surgery; 2 of these grantees are planning and implementing conversion to a primary-care facility. Strategic planning is the objective of 12 grantees (8 of them in consortia). Eleven grantees are recruiting physicians, nine grantees are adding or increasing an inpatient service, and nine are adding patient services such as lifeline, nonemergency transportation, and case management. Other objectives include recruiting health professionals other than physicians (four grantees), improving continuing medical education (two grantees), and improving management services (two grantees). A summary of these objectives is shown in Table III.3.

¹²Managed and multi-hospital system hospitals had 21-percent turnover, compared with 9-percent turnover among independent hospitals in 1 year (revisited grantees) and 30-percent turnover compared with 15-percent turnover in 3 years (grantees visited for the first time in 1991).

TABLE III.3
PROJECT OBJECTIVES: GRANTEES VISITED IN 1990 AND 1991

Objective	1989 Grantees	1990 Grantees	Total	
			Number	Percent
Strategic Planning	8	4	12	27 % ^a
Outpatient Service				
Primary care	5	5	10	22 %
Other	9	4	13	30 %
Inpatient Service	7	2	9	20 %
Patient Services	7	2	9	20 %
Physician Recruiting	5	6	11	24 %
Other Recruiting	2	2	4	9 %
Management Services	0	2	2	4 %
Medical Education	1	1	2	4 %
Ancillary Service Enhancement	2	0	2	4 %

NOTE: Total of 45 grantees, many of which had multiple objectives.

^aEight consortium grantees and four individual grantees.

2. Role of Grant Project in Strategic Planning

Grant projects are likely to have the most impact on the hospital if they are part of a well-conceived strategic plan for hospital development. To examine whether this is the case, the relationship of grant projects to strategic plans was a special topic in the 1991 visits to 11 of the 1989 and 12 of the 1990 grantees.¹³ Most grantees have or are developing a strategic plan: 12 of the 23 grantees already have a plan, and 6 grantees are developing a strategic plan of which 4 are using their grant funds to do so. Among the 12 grantees with strategic plans, only 1 grant project is not part of the plan. Not surprisingly, among these 12 grantees, all but two of the projects undertaken with grant funds would have been implemented eventually even if the grant had not been awarded. Some of these grantees mentioned that the projects might have been implemented more slowly, or less comprehensively, without the grant funds.

Nine of the 23 grantees visited for the first time in 1991 had started work on the project funded by the grant before receiving the grant. Eight of the nine projects that were started before the grant funds were received are part of the strategic plans, and two of them are ongoing recruiting projects. This pattern of early starts is very different from what we found among the 22 grantees visited for the first time in 1990. The grantees first visited in 1990 were unlikely to have implemented the projects without the grant, and few of the projects appear to have been part of strategic plans.

¹³These grantees were visited for the first time in 1991.

3. Hospital and Project Management Role in Project Startup

The 1989 grantees have now completed 2 years in the program and most of them have implemented their grant projects. All but 3 of the 33 grantees visited have now implemented their projects more or less as planned (though, as noted in the third report to Congress, some of them experienced considerable delays getting started).¹⁴

Financial crises that diverted administrator attention from the grant project was the reason for two of the three most prolonged delays. For example, one hospital planned to use its grant to open child-care and adult day-care programs. A financial crisis in 1989 and 1990 diverted administrative attention from the grant project. One of the problems that surfaced in implementing the project was that space costs were likely to be considerably higher than budgeted. Because of the concurrent financial problems and administrator attention on their resolution, the grant project was delayed. As the financial crisis resolved, a cost-sharing solution with the local head start program was identified and the child-care program was finally opened in August 1991, 23 months after the grant was received; the adult day-care program opened in January 1992. Another hospital planned to use its grant to open a home health agency after a 9-month planning period and to develop plans for an assisted-living complex. At the time the grant was received, the hospital was in a severe financial crisis because a local general surgeon had ceased to admit any patients to the hospital. A series of problems in getting certification that could likely have been

¹⁴Two of the 22 1989 grantees visited in 1990 completed their grants at the end of their second year.

dealt with more swiftly, had the administrator had the time to deal with them, resulted in the application for certification as a home health agency being delayed to 25 months after the grant was awarded; the opening date for the home health agency was January 1992.¹⁵ The assisted-living complex is on indefinite hold because no funding source that would permit subsidies to tenants has been identified. The third hospital with a major delay had planned to open two satellite clinics but has not done so because it has been unable to recruit a family practitioner to staff the clinics.

Less severe delays have also been encountered and overcome, some due to changes in hospital management and some due to financial problems. These delays occurred in projects that were recruiting physicians and constructing buildings. One hospital had a problem finding a suitable vendor for a closed-circuit television system for patient education that delayed its startup. Four other hospitals changed major project components. Three of these hospitals had new administrators since the grants were awarded, and two of them are currently in poor financial condition.¹⁶

¹⁵By contrast, a 1990 grantee was operating the home-health agency it planned under the grant within 6 months of receiving the grant.

¹⁶Two of the grantees had planned to open Rural Health Clinics; one of these grantees shelved its plan because of physician opposition to mid-level practitioners, but developed a physician-based clinic instead; the other grantee put the plan on hold because of multiple turnover in administrators (and has had another change since the site visit). Two consortium hospitals (both with new administrators) have not developed a plan to consolidate services, as originally planned. Rather, the grant projects have become individual strategic plans for each of the grantees, with the goal of individual hospital survival.

The 1990 grantees have now completed 1 year of their projects, and all but 1 of the 12 grantees visited in 1991 appear to be on schedule. One grantee delayed opening the mobile clinic it is implementing under the grant because of major technical problems. These problems were the result of poor specifications to the manufacturer.

C. IMPLEMENTING GRANT PROJECTS

Measuring the successful implementation of the projects depends on the projects' goals. For example, service implementation projects may be viewed as successful as soon as they start providing the service, although it is also important that the service continues to be provided and that the net amount of the service in the area is increased by the grant project. Recruiting projects are considered successful if they attract a qualified professional, and even more important, if they retain this and other professionals.

These successes have important implications for access to care, for hospital revenues, and ultimately the regard of the community for the hospital and its potential for remaining a viable acute care provider. We turn to a discussion of these effects of the grant projects in Section III. D after reviewing successfully implemented projects and the difficulties some grantees experienced in implementation.

1. Successfully Implemented Projects

Strategic Planning. The first stage of the strategic planning projects is information-gathering, followed by drawing up specific plans and schedules for recruiting, building, and equipment purchases required to implement new services. Subsequently, hospitals implement

services identified by the plan. All of the grantees spending funds on strategic planning have now reached the service implementation stage.

Eight 1989 grantees (five in two consortia) and four 1990 grantees (three in one consortium) used grant funds to implement or augment strategic planning. A typical project is a 1989 consortium which completed architectural feasibility studies and community surveys to establish need during the first year. The second year was devoted to implementing plans for the three facilities. In this phase the facilities purchased equipment (for example, equipment needed for orthopedic surgery), modified buildings, recruited physicians, and planned patient education including a formal diabetes education project. Two of the consortium members plan to spend third-year funds on coordinated physician recruiting.¹⁷ One of the continuing grantees in this consortium has had all other plans derailed by continued physician losses (four since the grant was received).

A 1989 grantee with a preexisting overall strategic plan is using the grant funds to plan and implement ambulatory care services. After 2 years, the hospital has planned a new building for ambulatory services, received a certificate of need, and has started construction. A bond issue to pay for construction has been passed with county government support. A 1990 grantee with a similar strategic planning project has developed its priorities and is in the process of implementing cardiac rehabilitation and cancer-screening services.

¹⁷One grantee in this consortium is not receiving third-year funds because it was sold to a new owner who did not wish to continue the grant.

Outpatient services. Twenty-two visited grantees proposed adding a variety of outpatient services. Eleven of them proposed to expand primary-care services through primary-care clinics, rural health clinics, satellite clinics, and mobile health clinics (including two conversions to a primary-care facility).

After 2 years, the five 1989 grantees planning expanded primary care services have had varying success; three have implemented primary-care services. One hospital converted successfully to a primary care clinic and though it continues to lose money, it will be maintained for strategic reasons by the parent organization based 30 miles away in a large city. One rural health clinic opened after 14 months of planning and attracted 10 patients a day until its nurse practitioner quit 1 year later. A weekend primary care clinic staffed by residents operates at one hospital (this hospital originally planned to open a rural health clinic but found that the local physicians would not cooperate, so it opened the physician clinic instead).

Six 1990 grantees planned primary care services. They have been more successful after 1 year than the 1989 grantees with this goal. Four have implemented the service and two are in the midst of construction to house the new services. One has hired a physician, converted a building, and will begin seeing patients 15 months after receiving the grant. Community and State support were cited as making this smooth start possible. Another grantee completed building renovation and opened its clinic in July 1991. One grantee has introduced a mobile clinic that is seeing patients in outlying areas (after resolving substantial technical problems). A fourth has introduced four rural health clinics staffed by physician

assistants with the full cooperation of the physicians and assistance from a consultant experienced in Rural Health Clinic implementation. This hospital also praised the Medicare carrier as being easy to work with. A primary care facility conversion is in full swing (all approvals received, building under construction, and fund-raising in progress) due to a cooperative hospital staff. An outpatient primary and secondary service project is now renovating space for the ambulatory services which will be added during the next 12 months.

Among the 1989 grantees, two grantees introduced emergency room improvements and advanced life-support ambulances which have improved the quality of emergency service available in the areas. Two grantees started outpatient chemotherapy programs that have served more than 500 patients who would otherwise have had to travel to the nearest city (either 60 or 80 miles away). During its first year, one 1990 grantee has introduced a home health agency and another has opened an outpatient surgery area.

Inpatient services. Nine visited grantees (seven 1989 and two 1990) proposed to implement inpatient services (nursing home beds, psychiatric beds, a hospice, and a chemical dependency unit). Two years after the award, six of the seven 1989 grantees have implemented these services (hospice is the exception; this was an aspect of a chemotherapy outpatient service which has been implemented). The two 1990 grantees are both converting acute care beds to nursing home beds. Both have received the necessary building approvals and have started construction.

Recruiting physicians. Eleven grantees proposed to use grant funds to recruit physicians.¹⁸ After 2 years, four of the five 1989 grantees who were recruiting physicians have recruited and retained at least one physician. One of the larger hospitals has successfully recruited three family practitioners, one psychiatrist, one anesthesiologist, one emergency room doctor, and one orthopedic surgeon. A hospital that set up a recruiting committee has recruited two obstetricians and a family practitioner. Among the six 1990 grantees which had recruiting as an initial objective, two have recruited physicians who are now in practice, and one has recruited a physician to start in mid-1992.

Other projects. Of the remaining objectives, two grantees have implemented MedNet programs, which they use for continuing medical education. One of the hospitals is also using MedNet to link up with outside physicians for consultations. Both hospitals are pleased with the service and believe that it has improved the quality of care provided.

These successes have important implications for short-run access to care and for hospital revenues, and for the long-run regard the community has for the hospital and the hospital's potential for remaining a viable acute care provider. We turn to a discussion of these effects of the grant projects in Section III. D after reviewing the difficulties some grantees experienced in implementation.

¹⁸Through strategic planning, two additional grantees decided on this use of funds after receiving the grant.

2. Difficulties

Despite the number and diversity of successful grant projects, some grantees have had difficulties implementing their projects. The following problems resulted in delays, changes in projects, or additional workload:

- Physician recruiting problems: difficulty finding--and retaining--physicians (especially family practitioners) interested in practicing in rural areas at the salaries offered (eight grantees)
- Recruiting and retention problems with other types of staff: project coordinators, physical therapists, physician assistants, nurse practitioners, registered nurses, and respiratory therapists (eight grantees)
- Bureaucratic problems including: delays in getting certificate of need, certification as a rural health clinic, certification as a home health agency, and problems receiving timely Medicare reimbursement from carriers and intermediaries (five grantees)
- Lack of support from physicians (five grantees)
- Technical problems: for example, the mobile health clinic and MedNet (four grantees)
- Less use of service than expected (three grantees)
- Construction delays, including asbestos abatement (three grantees)
- Problem providing clinical training needed for project (three grantees)
- Changes in hospital administrators holding up project (two grantees)
- Difficulties making consortium decisions (two grantees in one consortium)
- Shortage of money (two grantees)

Below, we give examples of the principal problems mentioned by the grantees¹⁹ and discuss whether the reasons the grantees were encountering these problems are tractable.

Recruiting problems result partly from factors completely outside the hospitals' control (the demand for family practitioners relative to the supply). But lack of cooperation in recruiting by local physicians and deliberate discouragement of potential recruits by other physicians were mentioned as problems. These situations occur when physicians, hospital administrators, and hospital boards do not communicate well.

Similar problems result in lack of retention—one hospital appears to have lost four admitting physicians since the grant was received as a result of the abrasive personality of a fifth physician. One hospital that was successful after 1 year had recruited a family practitioner who was providing obstetric services to Medicaid patients. The hospital has since lost that physician and another physician to a suburban area in the same State. The reasons stated: one physician wanted to be closer to the elderly parent of his spouse; both physicians were required to be on-call less often in their new practices. There is not a lot that small hospitals can do about these problems, though starting a hospital-based clinic with salaried physicians is a solution being strongly considered by two of the visited grantees that are having recruiting and retention problems as a result of the negative attitudes of local physicians.

¹⁹These are problems for many hospitals, regardless of whether the grant project is undertaking the activity described.

Recruiting and retention problems with other types of staff are also widespread. One hospital's physician assistant left 3 days after arriving because his friend did not like the area. Fortunately, the hospital was able to replace the physician assistant and implement its rural health clinics. One hospital is upgrading its ancillary services; the respiratory therapist who was trained using grant funds quit, and declared bankruptcy, thus releasing him from his scholarship repayment obligation to the hospital. This hospital has also been trying unsuccessfully for 2 years to recruit a physical therapist. (The hospital is unwilling to pay a salary of \$90,000 a year, which was mentioned as the premium rate needed to recruit a physical therapist to that area.) These retention problems can probably be improved by more careful screening of recruits.

Problems dealing with bureaucracies arise that appear to be remediable, even though they are outside the hospital's control. Two hospitals mentioned delays receiving reimbursement as a rural health clinic. One hospital had to wait 2 months for the carrier to provide a Medicare ID provider number, during which time it could not bill for services rendered.²⁰ The other hospital was given the wrong type of provider ID number and had to rebill for all the claims filed during the first several months of clinic operation. Improved performance by Medicare carriers could avoid these problems.²¹

²⁰Rural health clinics have to start providing services before they can be certified, and they must be certified before they can get a provider ID.

²¹One grantee introduced rural health clinics with little difficulty, because it used a knowledgeable consultant and had a cooperative carrier, as discussed in III. Section C.1.

Several 1989 grantees mentioned problems such as disputes with and lack of support from physicians as factors that delayed their grant projects. For example, physicians refused to cooperate with the development of a mid-level staffed rural health clinic (which might have competed with the physicians' practices and would have required them to supervise physician assistants). The resolution was to open a weekend clinic staffed by residents. A grantee introducing pulmonary rehabilitation finds that physicians will not use the service. Coopting physicians into the planning and quality assurance process, for example through joint committees of medical staff and the board, is one approach to avoiding inappropriate planning decisions and to preventing physician disruption of activities or physician failure to use a service.

Technical problems were cited as the reason for delay of a mobile health clinic. The order for the mobile clinic was placed by a hospital staff-member who had no experience with this type of purchase. After the mobile clinic was delivered, a project coordinator with experience of mobile clinics was hired. She has had to resolve numerous technical problems with the clinic which she believes need not have arisen if the order had been more carefully specified.²² Technical difficulties with a MedNet service makes it less useful for continuing medical education than it otherwise might have been.

²²These problems include an inadequate hydraulic system for wheel-chair access and the need for an electrical generator since the locations the clinic attends do not have electrical supplies adequate for the clinic's X-ray machine to operate.

D. GRANT PROGRAM IMPACTS ON THE HOSPITAL AND COMMUNITY

Although most of the grantees are well on the way to implementing their projects, the ultimate success of these projects must be evaluated in terms of their effects on hospital financial viability and management, access to care, and quality of care. As the discussion in previous sections indicates, small rural hospitals have multiple, complex problems, and their successful survival depends on the coordination of a variety of initiatives, of which the grant projects are just one part. In this section we discuss the role of the grant projects in improving financial viability and in facilitating the overall cooperation and coordination that is necessary for continued hospital operations.

1. Effects on Financial Viability

Grant projects can affect hospital finances positively or negatively and directly or indirectly. Increased revenues result directly, if the grant project is a service that generates revenue in excess of costs of implementation or if health professionals are recruited who generate revenue. Increased revenues may result in the longer term from strategic planning projects and from projects that provide services that, while not generating revenue to cover costs, improve community attitude toward the hospital, and in the long run increase use. Ill-conceived projects that neither add revenue nor improve community support for or use of the hospital will be a drain on the hospital and such projects likely will cease when the grant funding ends. We asked grantees about project costs and project revenue thus far, grant

effects on use of services, and whether they expected the grant project to have an effect on the hospital's financial viability.²³

Most of the respondents from the 32 1989 grantees believe that hospital use has increased as a result of the grant project. This has occurred through physician recruitment (either directly using grant funds or indirectly through the other effects of the grant that have improved the hospital's desirability to physicians), direct service provision under the grant project, and increased use of ancillary services because of the grant program. Perhaps not surprisingly, all but six of the 1989 grantees believe that the grant projects have already improved finances and will continue to have long-term effects on financial stability. Although the 1990 grantees have been operating for only 1 year, all 12 that were visited believe that the grant project will help finances even if it has not yet done so.

Among the 1989 grantees who have implemented a service, two estimate their projects (an inpatient chemical dependency treatment unit and an inpatient psychiatric service) have generated over \$1 million in revenue since they were implemented. The other revenue estimates for service projects range from \$36,000 (for a mental health program for the elderly which is not expected to break even but has increased inpatient referrals) to \$200,000 for an advanced life-support ambulance system that completed 402 runs in fiscal 1991.

²³All but 7 of the 44 visited grantees augmented the grant funds. Because of the limitation on capital items under the grant, five grantees mentioned that the hospital had paid for equipment or building required for a new service. Three other grantees viewed the grant as "seed" money that would generate more revenue.

Three of the eight 1990 grantees that are implementing a service said no revenue had been generated yet, two did not know how much had been generated (because they are not tracking it separately), and three gave estimates: \$30,000 (for patient visits to a mobile clinic); \$160,000 (for a home health agency that has been operating eight months); and \$200,000 (an estimate of direct and indirect effects from physician recruitment and mammography).

Among the 1989 recruitment projects, one grantee estimates that the new family practitioner generated \$300,000 in hospital billings per year and another grantee estimates that recruited physicians generated \$720,000 in hospital billings. The 1990 grantees who have recruited physicians, physician assistants, and a part-time physical therapist all have seen increased numbers of outpatient visits which directly improved revenue from visits and increased ancillary service use.

Projects that were developing patient services such as nonemergency transportation could not estimate revenue generated because the revenues are indirect. Patient education and outreach through screening services at three 1990 grantee programs were expected to result in future increases in utilization and have already reduced unmet needs.

The 12 planning projects (1989 and 1990 grantees) could not estimate a revenue effect yet. Grant-supported implementation of service-sharing among a 1990 consortium of three hospitals, construction and renovation, and improved accounting systems are also expected to improve revenues in the future.

While these are all desirable financial outcomes, they need to be placed in perspective. One grantee that has generated over \$1 million from its chemical dependency unit still has operating losses (which would have been more severe if it had not recently sold a primary care clinic that has been a major financial drain without offsetting inpatient admissions). Furthermore, this hospital has major staff management problems that do not augur well for its future. While this may be an extreme case, it illustrates the danger of looking simply at direct revenue from the grant projects as a measure of long-term success.

2. Other Effects on Grantees

Many of the grantees say that the grant award has had a positive effect on staff, board, physician, and community morale. They also say the grant has been important for public relations and the hospital's image in the community, either because the community was impressed that the hospital won a grant award, or because the changes in the hospital or services implemented with the grant have resulted in increased support for or use of the hospital. Some grantees expect the grant to improve physician recruiting by showing potential recruits that the hospital is a vital organization. Several grantees say that the grant improved communications among community, physicians, and the hospital by encouraging discussion about the hospital's future and the community's service needs.

These intangible grant effects may initiate the coordination and cooperation among hospital staff, medical staff, and the community that is necessary for long-term hospital viability.

3. Effects on Other Providers

Very few other local providers seem to have been affected either positively or negatively by the grant projects. Among the positive impacts on other providers are:

- A hospice has improved its financial status because of increased referrals from a case-management program in the hospital
- Two clinics were able to use the X-ray service of the project's mobile health clinic
- Relations between physicians who use a medical transportation van service and the hospital have improved
- A nursing home that uses the mental health service developed by the grant is enjoying better relations with the hospital
- A health department improved its financial situation because a psychiatrist recruited through the grant now works there
- Advanced life-support services in two communities adjacent to hospitals with grants have improved the quality of the service they offer. This result was achieved in one community when the paramedic training implemented by the grantee for its own advanced life-support program was opened to neighboring services. In the other community, competition with the grantee hospital resulted in an upgrade of their ambulance service.
- Relations among area hospitals have improved due to a coordinated physician-recruiting program for area hospitals

Negative effects on other providers were rarely mentioned. One instance that was later resolved occurred when a grantee converted some of its acute-care beds to long-term care beds, reducing a local nursing home's census. Since then, the hospital is working more

closely with the nursing home by sharing a contract with a dietician and providing the nursing home with physical therapy services.

Several grantees raised the possibility of consolidating with other hospitals, either partially, through service-sharing, or totally, through mergers. These respondents believe that maintaining rural hospitals will require more consolidation and mergers in the next few years. However, the barriers to consolidation, particularly the political problems raised by different forms of ownership (public and private) and different local governments, are seen as very great.

4. Effects on Access

The grant program is intended to maintain and improve access to health care in rural areas by improving financial and managerial capacity in rural hospitals. The grant projects may improve access in the short-run by providing new, expanded or higher quality services, or may affect access in the longer run by keeping the facility open. If the grant improves finances (which as we noted above may be happening), the health facility can remain open. This makes it less likely that physicians will leave the area; as a result, patients will not have to leave the community to receive primary and secondary care.

Short-run effects on access. It is not possible to provide an exact number of patients who have received services under the grant that they would not otherwise have received or which they would have had to travel to out-of-town hospitals to receive. However, new

services provided through service implementation projects report a large annual number of patients or visits (see Table III.4).²⁴

Highlights from this table include:

- Two outpatient oncology programs that have provided services to over 500 patients so far (a combined total of 275 patients per year) who would otherwise have had to travel an average of 70 miles to the city for treatment
- Two Rural Health Clinics provided a combined total of 8,600 visits a year to patients who might have gone without service or attended the emergency room for primary care
- An Ear, Nose, and Throat specialist clinic has had 550 patients (a total of 246 per year)
- Two inpatient psychiatric units have provided a local service for over 400 patients (a combined total of 709 patients per year)

Some grants have introduced services that have an unmeasurable, but possibly important effect on access. For example, transportation services for patients have been implemented by three grantees. It is not clear how many of these patients would have found alternative transportation to the hospital or clinic if the service was not available. However these services were identified as an unmet need and likely to improve access.

Five grantees have introduced patient education services (two had this as an original objective, and three added it as a result of strategic planning). Such projects may result in improved health status if patients access care more appropriately as a result of the

²⁴Some grantees have operated their services for less than or more than 1 year. The table shows annualized estimates of service use.

TABLE III 4
ANNUALIZED ESTIMATES OF NUMBER OF PATIENTS RECEIVING
SERVICES IMPLEMENTED WITH GRANT PROJECTS

Service Type	Annual Estimate		Length of Time in Operation
	Patients	Visits	
Inpatient Services			
Ventilator	13	--	16 months
Pulmonary Rehabilitation	--	196	18 months
Psychiatric Unit	235	--	21 months
Psychiatric Unit	474	--	8 months
Chemical Dependency Unit	62	--	18 months
Arthroscopy Service	13 ^a	--	11 months
Nursing Home Beds	10	--	20 months
Outpatient Services			
Primary Care Clinic	237	--	29 months
Mobile Health Clinic	--	700	6 months
Rural Health Clinic	--	6,000	5 months ^d
Rural Health Clinic	--	2,600	12 months
Psychiatric Service	b	--	14 months
Ear, Nose, and Throat Clinic	246	--	27 months
Oncology Chemotherapy Clinic	180	--	30 months
Oncology Chemotherapy Clinic	95	--	18 months
Mammography Service	428	--	12 months
Cardiac Clinic	13	--	8 months
Mental Health Program	70	--	21 months
Outpatient Surgery	336	--	10 months
Home Health Agency	161	--	5 months
Advanced Life-Support Ambulance	--	2,396 ^c	6 months
Advanced Life-Support Ambulance	--	402 ^e	20 months

NOTE: Actual numbers of patients or visits seen so far will be greater or less, depending on length of time the service has been operating.

^aThis service was opened by a grantee undertaking strategic planning.

^bThis hospital recruited a psychiatrist, who sees patients in other clinical settings. We are unable to provide the total number of patients receiving these psychiatric services.

^cThis refers to the total number of annual ambulance runs, not visits.

^dThis hospital opened four rural health clinics—three of them opened in May 1991 and one opened in September 1991.

information they receive. Two grantees introduced lifeline programs that may have saved lives, and two have introduced case management that should result in improved access.

Long-run effects on access. Two of the 1989 grantees visited in 1990 were facilities that had been hospitals which used their grant money to plan primary-care services (see fourth Report to Congress for a discussion of grantees that closed and converted). Thus, rather than lose a facility entirely, two communities kept a primary-care clinic open (both with extensive hours of operation).

None of the hospitals visited in 1990 have closed, including six that were in poor condition. Indeed, the financial condition of four of the six hospitals in poor financial condition in 1990 improved over the past year. While it is not possible to attribute this change to the grant, hospital administrators pointed out that all support, grant included, has helped to maintain viability.

E. GRANT FINANCIAL RECORDS

Another purpose of the site visits is to review grantee financial records against grantee reports, to identify potential fraud. No evidence of fraud was found. Grantees must report their grant expenditures every 6 months, including receipts for items valued at \$500 or more. These reported expenditures are reviewed on site by examining capital items such as equipment and construction billed to the grant, meeting with staff whose time was billed to the project and items such as consultant reports billed to the project. In addition, the hospital's financial records are reviewed to verify that grant funds drawn down from HCFA

were deposited in a hospital account, and, if they were drawn in advance of expenditure, that they were deposited in an interest-bearing account. Hospitals were advised to keep a separate ledger account for the grant funds. Finally, canceled checks for items and services purchased with grant funds are reviewed for unusual endorsements.

All of the hospitals were able to account for their reported expenditures; capital items and consultant reports were produced for examination and staff time billed to the project was verified. We did not find any unusual endorsements on the canceled checks we were able to review. A number of people billed to the project were not interviewed either because they were no longer with the hospital or because they were not available at the time of the visit. However, as other staff members were able to explain their role in the project, we are confident that they were legitimate charges to the grants.

In a few cases, verifying the grant expenditures took a considerable effort because grantees had not set up a separate ledger account to track items and staff time billed. These grantees had to search their general ledgers to show us the transaction. Some grantees that were spending their own funds as well as grant funds on the project made arbitrary decisions about which items to bill to the grant (which were sometimes inconsistent from report to report), but all had implemented the projects and spent the funds in the ways described.

All but two of the 30 grantees visited in 1991 were able to verify that they deposited the grant funds in a hospital account. At one of the hospitals, the turnover in the staff responsible for the project account and the lack of documentation by a previous employee

made it difficult for the new employees to trace the flow of funds. While other hospitals also had this problem, this particular hospital failed to document the reason and source of deposit. Therefore, it was impossible to distinguish between Federal funds received for the grant and Medicare service payments. At the other hospital, the accounting method used made it difficult for the hospital to verify deposit of the grant funds without an approximate issuance date.

One problem identified during the 1990 site visits was that some grantees were in violation of the Federal rules on interest earnings for grant funds.²⁵ Although there are still problems, compliance has improved. Nearly 60 percent of the hospitals visited had requested grant funds prior to expenditure. Of those hospitals, two-thirds had deposited the money in an interest-bearing account; one-third had not.

²⁵Federal rules require that any grant funds requested prior to expenditure be placed in an interest-bearing account. Any interest earned over \$100 must be returned to the Federal Treasury.

IV. PROGRESS OF 1989 GRANTEES

In the Omnibus Budget Reconciliation Act of 1987, Congress mandated that HCFA provide semi-annual progress reports on the RHCT grantees. A monitoring process was designed to ensure that grant funds were expended in a manner consistent with project goals and in accordance with regulations. The process was also designed to inform both HCFA and the Congress on the use of grant funds under the program, and on the grantees' progress toward implementing their projects. Therefore, under the terms and conditions of the grant awards, grantees are required to report the amount of grant funds spent and the progress made on their projects every 6 months. The fourth report from grantees, which covered the period from April 1, 1991, through September 30, 1991, was due on October 26, 1991. Of the 171 grant projects (169 hospitals) still active during this reporting period, 150 returned their monitoring reports in time to be processed for this Congressional Report. The information presented in this chapter is based upon the self-reported progress made by these 150 grantees.¹

¹Site visits and telephone follow-up of previously visited grantees are additional monitoring activities. Chapter III provides a detailed discussion of grant implementation and effects, based on information from these sources.

Two years after they received their grants, 16 percent of the 1989 grantees have completed all of their project activities.² The grantees continue to attribute success in implementing their projects to the availability of funds (in particular, funds received from the RHCT grant), the support received from other entities, the demand for project services, and the dedication of their staff. They also continue to mention the same difficulties: recruiting and retaining personnel, financing the project, and failing to receive support from other providers. The bulk of the grant funds continues to be spent on personnel, contracts, and capital.

A. ACHIEVEMENTS

Of the 150 reporting grantees, 46 percent (69 grantees) are at least a month behind schedule in at least one of their activities, about the same proportion that reported being behind schedule during the last reporting period (see Table IV.1). Sixteen percent (24 grantees) have completed all of their project activities.³ In contrast, none of the grantees in the last monitoring period reported completing all of their grant activities.

²Twenty-one grantees reported that they completed their grant projects and did not request further funding; only some of these hospitals completed their monitoring reports in time to be included in this report.

³Some of these grantees have completed all of their ongoing activities, but plan to undertake new activities in the future. Others have completed the implementation of their projects, but will use grant funds to subsidize the service over the next year.

TABLE IV.1
DISTRIBUTION OF PROJECT TIMELINESS BY PROJECT OBJECTIVE AND PROJECT DIRECTOR.
1989 GRANTEES¹

Characteristic	Total Number	Ahead of Schedule	On Schedule	Behind Schedule by More than One Month	Completed
Project Objective					
Planning or Market Analysis	29	0 %	52 %	0 %	48 %
Construction or Renovation	56	0 %	14 %	18 %	68 %
Equipment Purchase	99	1 %	34 %	12 %	53 %
Recruiting	111	1 %	35 %	28 %	36 %
Training or Staff Development	94 *	1 %	52 %	14 %	32 %
Education, Prevention, or Wellness Programs	59	0 %	66 %	5 %	29 %
Inpatient or Hospice Service	28	0 %	29 %	25 %	46 %
Outpatient Service	45	0 %	44 %	22 %	33 %
Clinic	31	0 %	45 %	26 %	29 %
Emergency Medical Services	12	0 %	58 %	17 %	25 %
Swing Beds	7	0 %	14 %	29 %	57 %
Other Health Service	15	0 %	47 %	7 %	47 %
Rural Health Network	32	0 %	38 %	28 %	34 %
Other	20	0 %	55 %	25 %	20 %
Who Directs Project?					
Hospital Administrator	89	0 %	37 %	43 %	20 %
Another Staff Member or Outside Consultant	59	0 %	41 %	49 %	10 %
Multiple Project Directors	2	0 %	0 %	100 %	0 %
Total	150	0 %	38 %	46 %	16 %

NOTE: Totals may not add to 100 percent due to rounding error. Only grantees who were still active at the end of 24 months are included.

¹Project timeliness is defined by the project's most delayed activity. For example, a project that is on schedule in only one activity and ahead of schedule in all the rest is defined as on schedule.

*Missing information for one of the hospitals.

1. Progress Relative to Schedule

The increase in the overall completion rate reflects increases in the completion rate for each individual activity.⁴ Once again, construction or renovation activities are most likely to be completed. Sixty-eight percent of the 56 grantees undertaking construction or renovation have completed this activity at the end of 2 years. More than half of the projects establishing swing-bed programs and requiring equipment purchases have been completed. In addition, close to half of the planning and market analyses and inpatient service implementation activities are complete.

At least a quarter of the swing-bed, rural health network, recruitment, clinic, and inpatient or hospice service projects are a month or more behind schedule. With the exception of swing-bed activities, the proportion behind schedule dropped or remained relatively unchanged from the previous reporting period. The doubling in the proportion of swing-bed projects behind schedule results from new hospitals reporting this as an activity.⁵

⁴The exceptions to this trend are rural health network and clinic projects. For both types of projects, the completion rate reported is lower than in the previous report. In the case of the rural health network projects, there is only a 2-percentage-point decrease; however, in the case of clinic projects, there is a 13-percentage-point decrease. A partial explanation may be that in this reporting period grantees were asked to report on projects that were operational. This may have reduced the proportion of ongoing projects, such as clinic service and rural health networks, that were reported as completed. Another plausible explanation is that the person completing the reports may have differed between the two reporting periods.

⁵Three of the seven hospitals started their swing-bed projects during the past 6 months and did not report it as an activity in their previous reports.

The relationship between being on schedule and the position of the project director is consistent with the results found in the previous reports. Projects directed by the hospital administrator are again less likely to be behind schedule (43 percent) than are projects directed by other staff or an outside consultant (49 percent). The two projects with multiple project directors remain behind schedule.

2. Implementation Successes and Difficulties

Successes. The four most frequently cited reasons for successful project implementation are:

- Availability of financial resources (cited by 66 percent)
- Cross-organizational support (cited by 63 percent)
- Project fills a demand for health care services (cited by 53 percent)
- Dedication of the hospital staff (cited by 47 percent)

Two thirds of the hospitals cite the availability of financial resources (especially the RHCT funds) for making it possible for them to carry out their respective projects. The grantees most likely to say that financial resources are important for project implementation are those with negative operating margins in the year before award and those who reported a change in hospital administrator in the last 6-month report.

Given the importance of financing, it is not surprising that some hospitals have sought and received contributions from other sources. Two hospitals received donated land

adjacent to the hospital, one to build an Assisted Care Facility and another to build independent living units for the elderly and the handicapped. The latter hospital used funds from the United States Farmers Home Administration to build the units and received a grant from the State to recruit health care professionals.

Another hospital received a contribution of \$25,000 from the County Commissioners for the improvement of the county's Emergency Medical System. Furthermore, the local ski resort's ambulance service, which the hospital helped to start, proved to be so successful that the ski resort reimbursed the hospital 50 percent of the seed money that the hospital donated. The hospital used that money to recruit a medical technologist.

The frequency with which the hospitals credit cross-organizational support as a factor in successful implementation is perhaps indicative of the extent to which rural hospitals must rely on other organizations. The grantees most likely to mention this factor appear to be those with greatest stability—having a zero or positive operating margin in the year before award, and no recent change in hospital administrator. Furthermore, grantees who have completed all the activities they planned under the grant cite cross-organizational support as a factor in successful implementation much more frequently than other grantees. Many times a hospital relies on another hospital, either because it is a member of a consortium or because it requires resources available at another hospital. Hospitals carrying out educational programs often depend on the local colleges or on a medical education firm, while hospitals expanding or adding a new facility depend on the cooperation of State and

local government agencies. The hospitals also credit the HCFA staff for helping them overcome administrative barriers.

Providing needed services continues to be one of the more frequently mentioned factors in successful project implementation; people use the implemented service. Not surprisingly, projects that are behind schedule least often say they are filling a need, and projects in hospitals with a stable administration and zero or positive operating margin most often say they are filling a need.

One hospital indicated that the demand for its fitness and exercise rehabilitation program is so high that it has outgrown its current space and other area hospitals are considering developing their own programs. Another hospital with a program for patients needing ventilator services reports a high utilization rate. According to the hospital, although such a program has a high reward potential, it is risky because such a program relies on outside referrals for its success, which makes it difficult to forecast demand for the service. Without RHCT funds, a small rural hospital would find it difficult to undertake such a high-risk program.

Forty-six percent of the hospitals credit the dedication and experience of the hospital and project staff for their project's success. Grantees with negative operating margins in the year before award were considerably more likely to mention the importance of dedicated or experienced staff than other grantees. Two of the hospitals commended the cooperation and dedication of their volunteer staff. One of the hospitals is upgrading its emergency medical services by training volunteers as first responders and emergency medical technicians. The

other hospital started a hospice program and has used volunteers to provide patient care and clerical services, as well as to help with fundraising activities and public relations.

Difficulties. Fewer hospitals mentioned project difficulties. The difficulties most frequently mentioned are essentially the same ones mentioned in the previous 6-month report. These frequently mentioned difficulties were:

- Recruitment and/or retention of health-care personnel (cited by 30 percent)
- Financial constraints (cited by 26 percent)
- Cross-organizational support (cited by 23 percent)

Recruiting and retaining personnel remains the most frequently cited difficulty, just as we found in the detailed study of grantees we visited. For example, one hospital successfully recruited project personnel, but its inability to retain some of them has delayed the progress of its project. A second hospital indicates that the scarcity of nurse practitioners may force it to recruit a physician instead of a nurse to staff its Rural Health Clinic after its nurse practitioner quit.

Financial constraints continue to be the second most frequently mentioned difficulty. The percentage of hospitals citing this as a difficulty has increased slightly over the previous report--from 19 to 26 percent. Hospitals are using different methods to cope with their financial constraints. One of the hospitals has scaled down its plans. Another hospital is undertaking a fundraising drive and is also soliciting funds from the United Way. In addition, it has hired part-time employees and is using the money saved in fringe benefits

to pay for other project requirements. A hospital that engaged in two capital-intensive projects, a Lifeline project and transportation service, regrets that the RHCT grant imposed a limit of one-third on capital spending.

Cross-organizational support is another major difficulty the hospitals face in carrying out their projects. However, the proportion of hospitals reporting this difficulty is nine percentage points less than in the previous report, which probably reflects the hospitals' success in overcoming early difficulties.

B. PROJECT MODIFICATIONS

A small number of hospitals report that they are modifying their projects to adjust to changing environments. In several cases, the hospitals still intend to realize their planned goals but have made adjustments in the staff configuration, site location, or program features. Other hospitals plan to expand their projects.

For various reasons, six hospitals decided to abandon components of their RHCT projects. A two-hospital consortium discontinued its efforts to establish a nurse pool under which there would have been mutual sharing of nurses. The consortium found that the loyalty the nurses felt toward their own hospital made them reluctant to work at the other hospital. Another hospital abandoned its plan to establish a rural health clinic after a preliminary study suggested that it was not economically feasible. In the face of greater-than-expected competition from other programs, a third hospital decided to redirect the

funds budgeted for a hospice program to its oncology program in an effort to improve the program's reputation before the grant ended.

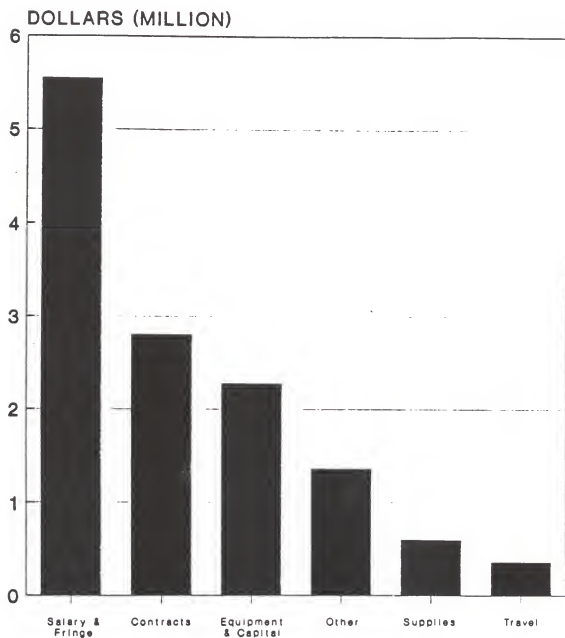
Two hospitals decided to drop a component of their projects because of recruitment and retention problems. One hospital was unable to establish a home health program before its grant ended because it could not recruit the necessary personnel. The other hospital, unable to recover from the departure of a charismatic program leader, discontinued its Senior Community Nursing Program.

C. EXPENDITURES

HCFA awarded \$8,254,442 in first-year RHCT grants to 181 hospitals in September 1989. Because four hospitals left the program and others requested budget changes that transferred funds from fiscal 1989 to fiscal 1990, the net obligated funds in fiscal 1989 were \$8,104,443. In August of 1990, HCFA awarded \$7,408,072 in continuation grants to 172 of the 1989 grantees, increasing the total amount of obligated funds to \$15,512,515. Two grantees closed their facilities since the fiscal 1990 awards were made, decreasing the obligated funds to \$15,412,515. Two years after the awards were made, \$12,941,025 had been spent by the 150 reporting hospitals, accounting for 84 percent of the obligated grant funds.

Figure IV.1 shows the categories of grant expenditures after 2 years. As in the past, the majority of the expenditures fell into three categories:

FIGURE IV.1
TOTAL EXPENDITURES BY CATEGORY:
1989 GRANTEES



- Personnel (includes fringe benefits): \$5,548,641 (43 percent)
- Contracts: \$2,800,937 (22 percent)
- Capital: \$2,274,167 (18 percent)

The percentage of total expenditures in these three categories is very similar to the distribution 18 months after grant award.

Ninety-six percent of the reporting 1989 grantees (144 hospitals) spent at least 50 percent of their 2-year award, with 83 percent (125 hospitals) having spent more than 75 percent of their award (see Figure IV.2). Only 4 percent (6 hospitals) have spent less than 50 percent of their award; all have spent between 26 and 50 percent.

The amount spent is related to the progress of the project. All 6 hospitals reporting grant expenditures under 50 percent of the award are behind schedule by at least a month (see Table IV.2). In contrast, 74 percent of the hospitals spending between 51 and 75 percent of their grant awards and only 39 percent of the hospitals spending more than 75 percent of the grant award are behind schedule by a month.

FIGURE IV.2
PERCENTAGE OF 2-YEAR FUNDING SPENT:
1989 GRANTEES

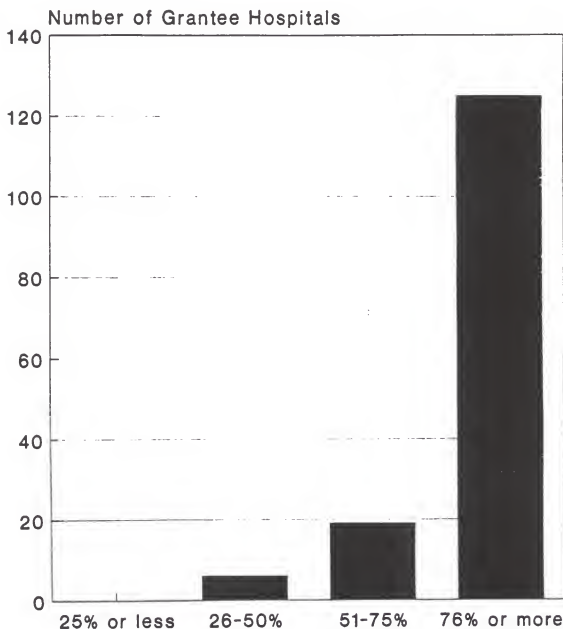


TABLE IV.2
PERCENTAGE OF GRANT FUNDS SPENT BY PROJECT TIMELINESS: 1989 GRANTEES¹

Percent of Total Grant Funds Spent After 24 Months	Total Number	Ahead of Schedule	On Schedule	Behind Schedule by More Than One Month	Completed
25 percent or less	0	--	--	--	--
26 - 50 percent	6	0 %	0 %	100 %	0 %
51 - 75 percent	19	0 %	11 %	74 %	16 %
Greater than 75 percent	125	0 %	44 %	39 %	17 %
TOTAL	150	0 %	38 %	46 %	16 %

NOTE: Totals may not add to 100 percent due to rounding error.

¹Project timeliness is defined by the project's most-delayed activity. For example, a project that is on schedule in only one activity and ahead of schedule on all the rest is defined to be on schedule.

V. PROGRESS OF 1990 GRANTEES

HCFA awarded 212 RHCT grants to 211 hospitals in fiscal 1990. The monitoring process for the 1990 grantees is the same as that used for the 1989 grantees (see Chapter IV).

Of the 211 hospitals awarded RHCT grants on September 15, 1990, two voluntarily withdrew from the program at the time of the award, two ceased operations during the past 6 months, and four others voluntarily terminated their grant projects. Of the 203 remaining hospitals, 178 hospitals (recipients of 179 grants) completed reports in time to be processed for this congressional report. This chapter presents information on the self-reported progress of these 178 hospitals.

The reporting hospitals made considerable progress in their first year. The majority of the 1990 grantees are on schedule. Factors that have contributed most to successful implementation are cooperation with other providers, dedication of hospital staff, availability of financial resources, and development of a viable strategic plan (all but the last being factors important for the 1989 grantees, too). The primary reason that the 1990 projects have fallen behind schedule is the same as for the 1989 grantees: the inability to recruit health care professionals. Hospitals spent most of their first-year grant funds on personnel, capital, and nonphysician contracts.

A. ACHIEVEMENTS

1. Progress Relative to Schedule

After 1 year, one hospital completed its grant project and another hospital is ahead of schedule in all its activities. Ninety-two hospitals (52 percent) are on schedule and 84 hospitals (47 percent) are behind schedule by more than 1 month--about the same proportion as the 1989 grantees after 1 year (Cheh, Condon, and Wooldridge, 1990).¹

Grant projects often include multiple activities, some of which may be behind schedule while others are on or ahead of schedule or completed. Like the 1989 grantees, hospitals are most likely to have completed activities that they have a high degree of control over; these include equipment purchases and planning or market analysis (see Table V.1). Close to half of the had done so after 1 year. Approximately 34 percent of the 105 hospitals planning or conducting market analysis completed the activity. Surprisingly, 41 percent of the 151 hospitals recruiting health care professionals completed the activity, an area in which hospitals often fall behind schedule. In contrast, none of the 1989 hospitals recruiting health care professionals completed the activity at the end of their first year (Cheh, Condon, and Wooldridge, 1990).

Hospitals introducing new services are often on or ahead of schedule. Nearly 87 percent of patient education activities, 70 percent of outpatient service activities, and

¹Two hospitals have completed their projects and are not requesting further funding, but only one filed its monitoring report in time for this report.

TABLE V 1
DISTRIBUTION OF PROJECT TIMELINESS BY PROJECT OBJECTIVE AND PROJECT DIRECTOR:
1990 GRANTEES*

Characteristic	Total Number	Ahead of Schedule	On Schedule	Behind Schedule by More than One Month	Completed
Project Objective					
Planning or Market Analysis	105	1 %	50 %	15 %	34 %
Construction or Renovation	72	0 %	35 %	39 %	26 %
Equipment Purchase	129	1 %	42 %	12 %	46 %
Recruiting	151	1 %	36 %	21 %	41 %
Training or Staff Development	92	2 %	63 %	11 %	24 %
Education, Prevention, or Wellness Programs	94	3 %	84 %	7 %	5 %
Inpatient or Hospice Service	19	0 %	63 %	21 %	16 %
Outpatient Service	63	5 %	65 %	18 %	13 %
Clinic	37	0 %	54 %	27 %	19 %
Emergency Medical Services	14	0 %	29 %	50 %	21 %
Swing Beds	3	0 %	67 %	33 %	0 %
Other Health Service	15	0 %	47 %	47 %	7 %
Rural Health Network	63	0 %	60 %	16 %	24 %
Other	23	9 %	65 %	22 %	4 %
Who Directs Project?					
Hospital Administrator	107	1 %	51 %	48 %	0 %
Another Staff Member or Outside Consultant	55	0 %	55 %	44 %	2 %
Multiple Project Directors	15	0 %	40 %	60 %	0 %
Total ^a	178	1 %	52 %	47 %	1 %

NOTE: Totals may not add to 100 percent due to rounding error. Only grantees who were still active at the end of 12 months are included.

Project timeliness is defined by the project's most-delayed activity. For example, a project that is on schedule in only one activity and ahead of schedule in all the rest is defined to be on schedule.

* One hospital did not send its first Monitoring Report, therefore there is no information on who directs the project. However, this grantee did send its second Monitoring Report, therefore there is information on project timeliness.

63 percent of inpatient or hospice care activities are on or ahead of schedule at the end of the first year. Nearly two-thirds of staff development programs and swing-bed conversion programs are also on or ahead of schedule.

Activities which hospitals are unlikely to have complete control over are the most likely to be delayed. For example, projects involving construction or renovation are the most likely to be delayed; 39 percent are behind schedule at the end of the first year (more than are on schedule). Projects implementing other types of health services (for example, transportation services for the elderly) are also likely to be delayed; 47 percent are behind schedule (about the same number are on schedule). Half of the 14 projects establishing emergency medical services are behind schedule, compared with one quarter of 1989 grantee emergency medical service projects at the end of the first year (Cheh, Condon, and Wooldridge, 1990).

Just as we found 6 months ago, project leadership has a slight effect on progress. Although the magnitude is small, projects directed by a hospital staff member or an outside consultant are more likely to be ahead of schedule than projects under other leadership. Furthermore, they are less likely to be behind schedule than those directed by the hospital administrator, which is the opposite of what we found for the 1989 grantees (see Chapter IV). Projects with multiple directors are most likely to be behind schedule, which was also true for the 1989 grantees.

2. Implementation Successes and Difficulties

Successes. Hospitals attribute their success after 1 year to a number of factors. The most frequently cited factors are:

- The ability to coordinate services and to work with other organizations (cited by 61 percent)
- Dedicated and experienced personnel (cited by 55 percent)
- Availability of financial resources (cited by 48 percent)
- The development of a viable strategic plan (cited by 47 percent)
- Successful recruitment of a health care provider (cited by 44 percent)

Over half of the hospitals attribute project success to help from other organizations. One hospital in South Dakota cites consortium coordination as the primary reason that its recruiting program has been successful; good communication within the consortium enables the hospital to share the services of a recruited physician. A hospital in Iowa that is implementing an agricultural occupational health and safety service cites support from the hospital staff, community organizations (local extension service, local 4-H clubs, local Future Farmers of America Clubs, and so on), local businesses, and hospital board members as one reason for its project success. Successful coordination between these groups facilitates implementation of community education programs like "Farm Safety Camp for Kids" and "First on the Scene for Farm Emergencies" workshops.

Over half of the grantees cite staff dedication or experience as a factor in their success. Grantees behind schedule and those which had a new administrator in the first 6 months of the grant project or a negative operating margin in the previous year most often mentioned this reason for success (similar to the 1989 grantees). Many of these grantees have projects establishing health education, prevention, and wellness programs. One hospital in Mississippi notes that a community health education and wellness program has been an extra chore for the hospital employees, but they have supported it in many ways, including working extra hours to establish the program. Another hospital implementing a health education program cites the dedication of its extended care coordinator, who has obtained support from local professionals and area support agencies for the grant project, which in turn has been accepted and utilized by the community.

Many grantees cite the financial resources provided by the grant as the primary reason for the success of their projects. The grants provide some hospitals with funds to undertake projects that otherwise would not have been possible, and the hospitals report positive results from these projects. Grantees behind schedule and those with a change in hospital administrator were most likely to cite financial reasons as an important factor in success. Some grantees also receive funding from outside sources. For example, one hospital in Indiana indicates that the local community donated land and a building for an outpatient care clinic. This hospital also augmented the funding for its RHCT grant project with a grant from an outside foundation.

Forty-seven percent of the hospitals attribute their success to the development of a viable strategic plan. Many of these hospitals cite the importance of taking time to formulate a strategic plan and having an open planning process involving hospital staff and the community, which has helped the hospitals make better decisions about their future.

Forty-four percent of the hospitals cite the successful recruitment of a health care provider as a key reason for their success. One hospital in South Dakota recruited a husband and wife family practitioner team; prior to recruiting this team, the town had only one full-time equivalent family physician. After recruiting this team, the town had 2.5 full time equivalent family physicians. One hospital in California did not have the financial resources to recruit an interested husband and wife physician/dentist team. However, 10 citizens in the community each loaned \$10,000 to attract this team to the community.

Difficulties. While many hospitals cite factors contributing to success, many hospitals also encounter problems. The most frequently mentioned difficulties are:

- Inability to recruit or retain health care professionals (cited by 35 percent)
- Lack of coordination with other organizations (cited by 33 percent)

Hospitals indicating that physician recruitment and retention are a problem offer various explanations for these difficulties. Among these explanations are that a limited number of health care professionals are willing to practice in rural areas and that rural areas offer less lucrative financial packages than those offered in other areas. This frustrates recruiting efforts, and rural hospitals must often manage their projects with fewer staff.

It is not surprising that while many hospitals cite cross-organization support as a factor in their success, many of them also cite it as a major difficulty. These hospitals indicate that lack of communication between the hospital and community service agencies, as well as cumbersome bureaucratic structures outside of their control, often thwart the success of their grant program. Many of the 1989 grantees eventually found ways to overcome these barriers; it remains to be seen if the 1990 grantees can do the same.

B. PROJECT MODIFICATIONS

None of the 1990 grantees reported major changes in scope during the second 6-month period, although a number made minor modifications in their projects. Typically, grantees that modified their projects learned during the planning stage that certain aspects of the projects they intended to pursue are either not needed or are not economically feasible. As a result, they reevaluated their projects and changed their focus. For example, one hospital intended to focus its efforts on evaluating the success of its orthopedic center; an outside consultant advised the hospital that an evaluation was unnecessary and that it should focus instead on enhancing services at the center. The hospital has thus refocused its efforts on improving services at its orthopedic center.

Other hospitals made minor project modifications as their circumstances changed. For example, one hospital intended to use most of the grant to enhance its home health services. However, two family physicians left the hospital's service area during the past 6 months; thus, the hospital decided to shift the home health portion of its grant to physician recruitment.

C. EXPENDITURES

HCFA awarded \$9,372,983 to 211 hospitals receiving 212 RHCT grants in fiscal 1990. With the voluntary withdrawal of two of the hospitals at the time of the award, the total amount obligated for the first year decreased to \$9,273,003. Since then, four other hospitals voluntarily withdrew from the program and two hospitals ceased operations (see Table I.2).

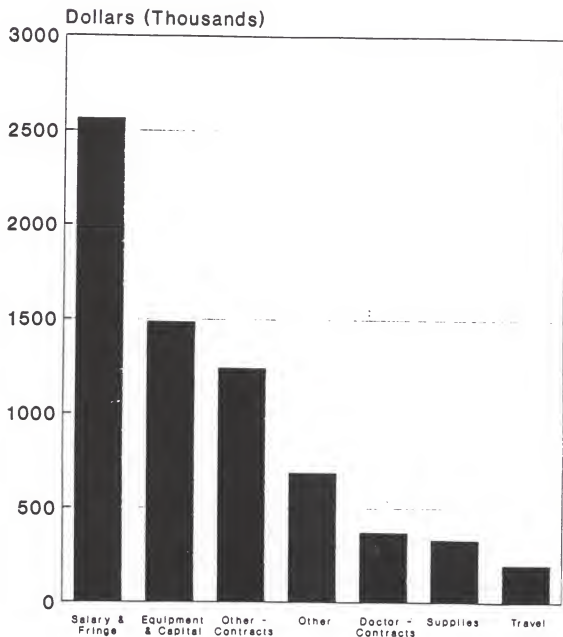
The hospitals report spending 77 percent of their grants in the following three categories (see Figure V.1):

- Salary and fringe benefits: \$2,563,734 (37 percent)
- Equipment and capital: \$1,485,449 (22 percent)
- Nonphysician contracts: \$1,241,472 (18 percent)

These figures are quite similar to those reported by the 1990 grantees 6 months ago. At the end of the first 6 months, salary and fringe benefits were slightly lower (35 percent), and the equipment/capital and nonphysician contract expenses were slightly higher (23 and 19 percent respectively) (Cheh, et al., 1991).

These figures, however, are slightly different than those reported by the 1989 grantees after 1 year of their grant projects. The 1989 grantees reported spending 41 percent of their second 6 month's expenditures on salary and fringe benefits and 23 percent on contracts (including physician and nonphysician service contracts). The 1989 grantees reported spending only 18 percent for capital and equipment costs, 4 percentage points less than the 1990 grantees spent towards equipment and capital costs (Cheh,

FIGURE V.1
TOTAL EXPENDITURES BY CATEGORY:
1990 GRANTEES



Condon, and Wooldridge, 1990). Part of the increase in capital and equipment expenditures is due to the change in the program in 1990--hospitals converting to a rural primary-care hospital are not limited to a one-third capital maximum.

During the first year, the hospitals spent \$6,865,616 or an average of \$38,571 per grant. The majority of the 1990 grantees (66 percent) spent between a quarter and half of the grant award (see Figure V.2). Forty-nine of the 178 reporting hospitals (28 percent) spent 25 percent or less of their award. Only five of the 178 reporting hospitals (3 percent) spent more than 75 percent of the first-year grant funds, and another five (3 percent) spent between half and 75 percent of the grant award.

As one might expect, hospitals spending smaller amounts of their grants are the ones most likely to be behind schedule. Forty-seven percent of the hospitals that spent less than 25 percent of the first-year funds and 50 percent of the hospitals that spent between 25 and 50 percent of the first-year funds are behind schedule (see Table V.2). In contrast, none of the hospitals that spent more than 75 percent of the first-year funds is behind schedule.

FIGURE V.2
PERCENTAGE OF TOTAL FUNDING SPENT:
1990 GRANTEES

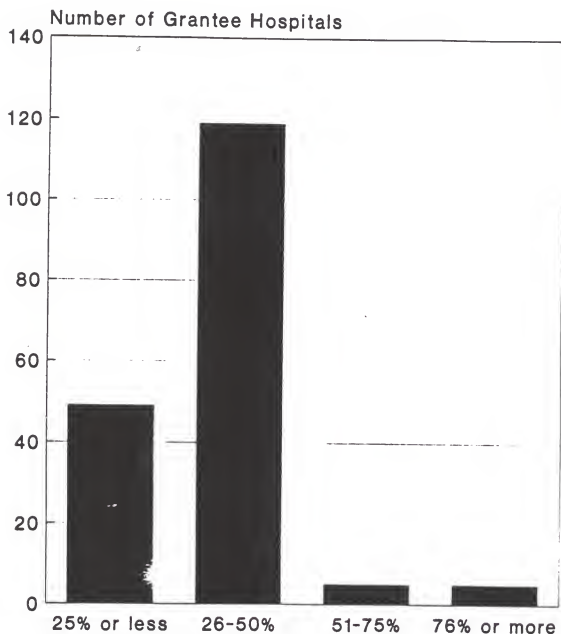


TABLE V.2
PERCENTAGE OF GRANT FUNDS SPENT BY PROJECT TIMELINESS, 1990 GRANTEES^a

Percent of Total Grant Funds Spent After 12 Months	Total Number	Ahead of Schedule	On Schedule	Behind Schedule, by More Than One Month	Completed
25 percent or less	49	0 %	53 %	47 %	0 %
26 - 50 percent	119	1 %	49 %	50 %	1 %
51 - 75 percent	5	0 %	60 %	40 %	0 %
Greater than 75 percent	5	0 %	100 %	0 %	0 %
Total Number	178	1 %	92 %	84 %	1 %

NOTE: Totals may not add to 100 percent due to rounding error.

^aProject timeliness is defined by the project's most-delayed activity. For example, a project that is on schedule in only one activity and ahead of schedule on all the rest is defined as on schedule.

VI. SUMMARY OF GRANTEE PROGRESS

Two years into the grant program for RHCT, we can say with certainty that most grantees can implement a grant project, and that some grant projects are improving hospital revenues and improving patient access. But, the volatile circumstances many rural hospitals face compete with grant projects for administrator attention, resulting in some serious delays and problems that have not all been resolved. While evaluations will be conducted in the future of the effects of the grant program on hospital managerial and financial stability, the limited results of site visits and analysis of monitoring reports submitted by the grantees, and presented in Chapter III, IV, and V, provide us with the following information about the grant program.

Small rural hospitals can implement planned projects, though they often take longer than originally planned. After 2 years, many 1989 grantees have implemented a new service (mostly outpatient, but also inpatient and patient services such as education and transportation).

Two-thirds of the construction funded by the grants is complete, and over half of the planned equipment purchases have been made. Nearly half of the projects that had planning or market analysis components completed them. The hospitals report lower completion rates for service implementation activities, although about half of the inpatient and swing-bed projects are complete. The hospitals are least likely to report outpatient, clinic, and patient

services, staff training and recruitment activities as complete (even when a planned service has been implemented).

Visits to 18 of the 1989 grantees and telephone follow-up discussions with 15 previously visited grantees confirm the self-reports. Of the 14 projects implementing outpatient and primary-care services, 11 implemented the service and 10 continue to provide it. Seven hospitals planned inpatient services, six of which have implemented the service. Five hospitals planned to recruit physicians, four of which have been successful at recruiting and retaining a physician, and the fifth recruited a physician but lost him after less than 2 years.

One year after their grants were awarded the 1990 grantees are most likely to have completed activities over which they have the most control: close to half of the planned equipment purchases have been made, and one-third of the projects that had planning or market analysis components had completed them. By contrast, construction projects were the most likely to be delayed after 1 year (similar to the 1989 grantees 1 year ago). Surprisingly, 41 percent of the grantees recruiting health professionals had completed the activity after 1 year.

During the site visits to 12 of the 1990 grantees (9 individual grantees and 1 consortium of 3 hospitals), we found that 4 of 6 that were planning a primary-care service had implemented it; and 2 are in the middle of construction projects to house the service. Two inpatient projects (both acute care to nursing home bed conversions) have also started construction for the conversion. Three of six physician-recruiting projects have already

recruited a physician. These findings are consistent with the self-reported progress of 178 grantees.

Grantees in both award years attribute successful project implementation to financial support (specially the grant), dedicated staff at the hospital, and support from and coordination with other organizations. More than half of the 1989 grantees reported that the projects are successful because they fill a health-care service demand. Nearly half of the 1990 grantees attributed success to having developed a viable strategic plan.

The principal difficulties the grantees reported in implementing their projects are in recruiting and retaining health professionals, and coordinating with other organizations. The coordination issues include bureaucratic problems with certification and problems with Medicare carriers over reimbursement. But five grantees also mentioned that the lack of support from local physicians held up their grant projects.

The site visits provide an opportunity for discussing the major problems and difficulties small rural hospitals have to deal with, and how these affect grant project implementation and effects. Like all rural hospitals, about 21 percent of the grantees have turnover of the hospital administrator each year, but we also found that some of this turnover is due to cancellation of management contracts. Regardless of their current financial status, many grantees point out the fragility of their finances, and a number of grantees have lost ground since they received the award because of physician losses or failure to recruit new, needed physicians.

Few grantees believe that the grant project will be the deciding factor in hospital survival and stability. But many of the grantees believe that their grant projects will enhance

their financial status in the long run by enabling them to change. Some of these changes are believed already to have made the hospital more attractive to the local community and potentially to the physicians they are trying to recruit. It has made many grantees, and their physicians and communities, feel more capable of directing change rather than being subject to uncontrollable forces.

VII. 1991 GRANT SOLICITATION PROCESS AND APPLICANT CHARACTERISTICS

A. SOLICITING AND SCORING THE APPLICATIONS AND SELECTING GRANTEES

To begin the solicitation process for the 1991 RHCT grants program, HCFA sent letters and application materials to over 2,500 rural, nonprofit hospitals. To be eligible to receive a grant, a hospital had to be a non-Federal, nonproprietary, short-term, general acute-care hospital with fewer than 100 beds and had to be classified as a rural hospital under Medicare's Prospective Payment System.¹ Hospitals that won grants in 1989 or 1990 and received maximum grant funding for their continuation in 1991 were ineligible for this solicitation. HCFA received 445 applications, 319 from individual hospitals and 126 from hospitals in 34 consortia.

Technical panels reviewed and scored the applications based on five criteria mandated by Congress. The panels submitted scores to HCFA on June 3, 1991. The scores were then normalized using standard statistical techniques to account for panel variation.²

HCFA used two guidelines to select the grant award winners: merit (as reflected by the proposal score) and the equitable distribution of funds across States. In order to meet both of these goals, HCFA used the same two-stage award process to select the 1991 grantees

¹P.L. 100-203, Sec 4005(e).

²See Appendix B for information on the score adjustment process.

that it used to select the 1989 and 1990 grantees. Funds were allocated across States in proportion to the number of eligible hospitals. Within States, awards were made up to the ceiling based on merit. The remaining funds were awarded based on merit without regard to State. Because of the small number of applicants in some States, HCFA imposed the restriction that only those proposals that were deemed acceptable for award by the technical panels were actually awarded grants.

HCFA awarded a total of 187 grants to 187 hospitals; 138 grants were awarded to individual hospitals, and 48 grants were made to hospitals in 14 consortia. Just over \$6.2 million was awarded from the State pools, and just over \$1.9 million was awarded from the national pool for a total value of \$8,173,439. Appendix C lists the 1991 grantees and their first-year grant fund amounts by State.

B. GEOGRAPHIC DISTRIBUTION OF THE APPLICANTS

HCFA received 445 applications from 425 hospitals for the 1991 RHCT grants program. Overall, just under 25 percent of the eligible hospitals applied for the grants.³ Applications

³The list of eligible hospitals is based on the 1,728 hospitals that were originally identified as eligible for the grants by HCFA in 1989. An additional hospital in Connecticut was identified as eligible for the program in 1991 and was added to the list, increasing the number of eligible hospitals to 1,729 (see Table VII.1). This list of eligible hospitals does not account for hospitals that have already received grants and as a result, are not eligible for this solicitation. It also does not reflect hospitals that have been identified as eligible for the RHCT grants program since 1989 (other than the Connecticut hospital mentioned above).

came from 42 of the 47 States with eligible hospitals.⁴ The highest application rate occurred in the West North Central census division of the country; 36 percent of the eligible hospitals in this census division submitted applications for the program (see Table VII.1). Over 40 percent of the eligible hospitals in Connecticut, Iowa, Maine, Missouri, Montana, North Dakota, South Dakota, and West Virginia submitted proposals. The largest number of proposals from any one State was 42 from Texas, which has the most eligible hospitals (169 eligible hospitals).

The lowest application rate occurred in the Middle Atlantic census division in which 15 percent of eligible hospitals applied for a grant. None of the eligible hospitals in Hawaii, Maryland, Massachusetts, Nevada, Puerto Rico, or Vermont applied for the 1991 RHCT grants program. Less than 10 percent of the eligible hospitals in Georgia and Ohio applied for the program.

C. COUNTY CHARACTERISTICS OF APPLICANTS AND GRANTEEES

The success of the Grant Program for RHCT will be influenced by the health care environment. If the area characteristics of the grantees match those of all rural hospitals, then any success achieved under this program has the potential to be replicated in other rural areas. The areas where the 1989 and 1990 grantees are located are generally

⁴This does not include Puerto Rico, which has four eligible hospitals, none of which applied for the program.

TABLE VII.1
1991 GRANT PROGRAM FOR RURAL HEALTH CARE TRANSITION: ELIGIBLE HOSPITALS, PROPOSALS RECEIVED, AND AWARDS

Census Div. & State	No. of Eligible Rural Hosp.	Percentage of Eligible Hospitals Nationally	Number of Proposals Received	Number of Hospitals That Applied	Percentage of Eligible Hospitals That Applied	Number of Awards	Percentage of Eligible Hospitals Awarded Grants	Funding Level (\$)	Percentage of Total Funding
New England									
Maine	17	0.98	9	8	47.06	4	23.53	150,000	1.84
Massachusetts	3	0.17	0	0	0.00	0	0.00	0	0.00
New Hampshire	9	0.52	3	3	33.33	2	22.22	88,000	1.08
Vermont	10	0.58	0	0	0.00	0	0.00	0	0.00
Connecticut	1	0.06	1	1	100.00	1	100.00	50,000	0.61
Total	40	2.31	13	12	30.00	7	17.50	288,000	3.52
Middle Atlantic									
New York	31	1.79	4	4	12.90	3	9.68	143,225	1.75
Pennsylvania	13	0.73	3	3	23.08	2	15.38	100,000	1.22
Puerto Rico	4	0.23	0	0	0.00	0	0.00	0	0.00
Total	48	2.75	7	7	14.58	5	10.42	243,225	2.98
South Atlantic									
Florida	19	1.10	4	4	21.05	3	15.79	150,000	1.84
Georgia	56	3.24	3	3	5.36	1	1.79	50,000	0.61
Maryland	3	0.17	0	0	0.00	0	0.00	0	0.00
North Carolina	38	2.20	11	11	28.95	5	13.16	250,000	3.06
South Carolina	15	0.87	3	3	20.00	1	6.66	50,000	0.61
Virginia	18	1.04	2	2	11.11	1	5.55	50,000	0.61
West Virginia	18	1.04	9	8	44.44	3	16.66	120,000	1.47
Total	167	9.66	32	31	18.56	14	8.38	670,000	8.20

TABLE VII.1
1991 GRANT PROGRAM FOR RURAL HEALTH CARE TRANSITION: ELIGIBLE HOSPITALS, PROPOSALS RECEIVED, AND AWARDS

Census Div. & State	No. of Eligible Rural Hosp.	Percentage of Eligible Hospitals Nationally	Number of Proposals Received	Number of Hospitals That Applied	Percentage of Eligible Hospitals That Applied	Number of Awards	Percentage of Eligible Hospitals Awarded Grants	Funding Level (\$)	Percentage of Total Funding
East South Central									
Alabama	27	1.56	9	9	33.33	4	14.81	186,320	2.28
Kentucky	41	2.37	7	7	17.07	3	7.32	147,372	1.80
Mississippi	59	3.41	13	13	22.03	5	8.47	250,000	3.06
Tennessee	29	1.68	6	6	20.69	3	10.34	141,890	1.74
Total	156	9.03	35	35	22.44	15	9.62	725,582	8.88
West South Central									
Arkansas	40	2.31	4	4	10.00	2	5.00	100,000	1.22
Louisiana	45	2.60	8	8	17.78	1	2.22	50,000	0.61
Oklahoma	63	3.65	14	14	22.22	6	9.52	283,250	3.47
Texas	169	9.78	42	42	24.85	16	9.47	797,400	9.76
Total	317	18.34	68	68	21.45	25	7.89	1,230,650	15.06
West North Central									
Iowa	77	4.46	33	31	40.26	11	14.29	543,757	6.65
Kansas	96	5.56	22	20	20.83	8	8.33	400,000	4.89
Minnesota	92	5.32	27	27	29.35	8	8.70	400,000	4.89
Missouri	47	2.72	20	19	40.43	7	14.89	349,155	4.27
Nebraska	69	3.99	19	19	27.54	15	21.74	314,932	3.85
North Dakota	37	2.14	28	28	75.68	14	37.84	509,659	6.24
South Dakota	42	2.43	21	20	47.62	12	28.57	319,611	3.91
Total	460	26.62	170	164	35.65	75	16.30	2,837,114	34.71

TABLE VII.1
1991 GRANT PROGRAM FOR RURAL HEALTH CARE TRANSITION: ELIGIBLE HOSPITALS, PROPOSALS RECEIVED, AND AWARDS

Census Div. & State	No. of Eligible Rural Hosp.	Percentage of Eligible Hospitals Nationwide	Number of Proposals Received	Number of Hospitals That Applied	Percentage of Eligible Hospitals That Applied	Number of Awards	Percentage of Eligible Hospitals Awarded Grants	Funding Level (\$)	Percentage of Total Funding
East North Central									
Illinois	49	2.84	6	6	12.24	2	4.08	98,970	1.21
Indiana	32	1.85	9	9	28.13	2	6.25	100,000	1.22
Michigan	47	2.72	5	5	10.64	2	4.26	73,324	0.90
Ohio	28	1.62	2	2	7.14	2	7.14	96,900	1.19
Wisconsin	60	3.47	11	11	18.33	4	6.66	199,600	2.44
Total	216	12.50	33	33	15.28	12	5.56	568,794	6.96
Mountain									
Arizona	20	1.16	3	3	15.00	2	10.00	99,900	1.22
Colorado	41	2.37	19	16	39.02	3	7.32	139,274	1.70
Idaho	35	2.03	6	6	17.14	5	14.29	232,689	2.85
Montana	44	2.55	27	18	40.91	8	18.18	350,892	4.29
Nevada	10	0.58	0	0	0.00	0	0.00	0	0.00
New Mexico	20	1.16	4	4	20.00	3	15.00	147,334	1.80
Utah	16	0.93	3	3	18.75	2	12.50	99,785	1.22
Wyoming	14	0.81	4	4	28.57	1	7.14	50,000	0.61
Total	200	11.57	66	54	27.00	24	12.00	1,119,874	13.70
Pacific									
Alaska	13	0.75	2	2	15.38	1	7.69	40,200	0.49
California	40	2.31	9	9	22.50	4	10.00	200,000	2.45
Hawaii	9	0.52	0	0	0.00	0	0.00	0	0.00
Oregon	24	1.39	5	5	20.83	2	8.33	100,000	1.22
Washington	39	2.26	5	5	12.82	3	7.69	150,000	1.84
Total	125	7.23	21	21	16.80	10	8.00	490,200	6.00
TOTAL	1729	100.00	445	425	24.58	187	10.87	8,173,439	100.00

representative of all rural hospitals (Cheh, Baird, Garvey, Wooldridge, 1990; Cheh, Condon, Wooldridge, 1991). In contrast, we found that the 1991 grantees are from areas that have some different social and economic characteristics than the eligible hospitals.

To make comparisons of area characteristics, we defined four groups: (1) counties that have hospitals eligible for the program, (2) counties that have hospitals that applied for a grant in 1991, (3) counties that have hospitals that were awarded a grant in 1991 and (4) counties that have hospitals that were not awarded a grant in 1991.⁵

1. Social and Economic Characteristics

With the exception of population density, the social and economic characteristics of areas with grant winners are similar to those of hospitals that applied for but did not win a grant. However, there are a few differences between the area characteristics of eligible hospitals and applying hospitals. As a result, the 1991 grantees face slightly different environments than the typical eligible hospital, which may affect the success of their grant projects.

The typical 1991 grantee hospital is located in a county that has a 33 percent lower population density than the county of the median eligible hospital. The 1991 grant winners have a median population density of 17 persons per square mile compared to 25 persons per square mile among eligible hospitals (see Table VII.2). One reason for this difference may

⁵See Appendix D for details on data sources.

TABLE VII 2
SOCIAL AND ECONOMIC CHARACTERISTICS OF COUNTY
1991 APPLICANTS

Characteristics	Eligible Hospitals	Grant Applicants	Funded Grants	Nonfunded Applicants
Demographic (Median Values)				
Population Density Per Square Mile ^a	24.9	20.3	16.7	21.9
Percent of Population 65 Years or Over ^b	14.3	14.9	15.2	14.8
Ethnic Composition^b (Mean Values)				
Percent Black	6.7	4.7	4.5	4.8
Percent American Indian	1.7	2.0	2.2	1.7
Percent White	89.4	91.4	91.7	91.3
Economic Characteristics (Median Values)				
Annual Per Capita Income ^c	\$11,368	\$11,423	\$11,678	\$11,383
Unemployment Rate ^d	7.6	6.8	6.6	7.1
Percent of Population 65 Years and Over in Poverty Status ^b	17.6	17.6	18.2	17.3
Health Status Indicators (Median Values)				
5-Year Infant Mortality Rate (Per 1,000 Live Births) ^e	10.4	10.2	10.2	10.2
Mortality Rate ^f (Per 1,000)	10.4	10.5	10.7	10.3

^a1987 population estimates divided by land area in square miles.

^b1980 Census Data. Columns do not add to 100 percent because "other" ethnicities are not shown.

^c1986 per capita data from the 1969-1986 Local Area Personnel Income Tape, U.S. Department of Commerce, Bureau of Economic Analysis.

^d1987 Bureau of Labor Statistics.

^e1981-1985, National Center for Health Statistics.

^fNumber of reported deaths in 1985 divided by 1985 population estimates, National Center for Health Statistics.

be that the hospitals that won grants in 1989 or 1990 and received maximum grant funding for their continuation in 1991 are ineligible to apply for a grant in 1991. These hospitals are located in counties with slightly higher than the median population density (Cheh, et al., 1990). The other factor contributing to the low population density is the large number of funded frontier hospitals (hospitals located in counties with six persons or less per square mile). Twenty-three percent of the grantees (or 43 hospitals) are frontier hospitals. Since 58 percent of the small frontier hospitals nationally are publicly owned (Rubin, et al. 1991), these hospitals are likely to face tax revenue loss caused by the economic recession. Thus, these hospitals may have greater need for the program and are therefore more likely to have applied and received funding.

The ethnic distribution of the population is also slightly different for the grantee hospitals than for the eligible hospitals. The 1991 grantees are located in counties that have a slightly lower proportion of blacks and a slightly higher proportion of whites than the eligible hospitals. This can be explained by the large proportion of grantees located in the North Central census region which has a lower proportion of blacks than other census regions.

The economic status of the funded grant sites and eligible hospitals is slightly different. The annual per capita income of grantee areas is slightly higher than for all eligible areas (\$11,678 for the grantee areas and \$11,368 for all eligible areas), and the unemployment rate of grantee areas is lower than for all eligible areas (7 percent for grantee areas and 8 percent for all eligible areas). These statistics would suggest that the 1991 grantees are

located in areas that are relatively more affluent. However, the median percent of population 65 years and over in poverty is higher for grantee areas. This suggests that, while the general population may have better economic circumstances, Medicare beneficiaries may have relatively worse economic circumstances.

Indicators of the area's health status are virtually the same for the funded grant applicants and the eligible hospitals. The median 5-year infant mortality rate is 10.2 per thousand live births for grantee areas and 10.4 for all eligible areas; the median mortality rate is 10.7 per thousand for grantee areas and 10.4 for all eligible areas.

2. Access to Facilities

Despite the fact that the 1991 grantee hospitals are located in less densely populated areas, residents in the counties where funded hospitals are located have the same access to hospital services as do residents in the counties where all eligible hospitals are located. The funded areas have slightly more hospital beds per person (4.8 hospital beds per 1,000 population for funded areas and 4.6 hospital beds per 1,000 population for all eligible areas) and the same number of hospitals per square mile (1.9 hospitals per 1,000 square miles) (see Table VII.3).

Because 1991 funded areas have slightly more hospital beds per 1,000 population than all eligible areas, it is not surprising that Medicare beneficiaries in funded areas average slightly more inpatient days than Medicare beneficiaries in areas with eligible hospitals. Funded counties average 4.9 Medicare inpatient days per beneficiary versus 4.8 Medicare

TABLE VII.3
COUNTY SUPPLY OF SERVICES AND FACILITIES:
1991 APPLICANTS

Characteristic	Eligible Hospitals	Grant Applicants	Funded Grants	Nonfunded Applicants
Number of Hospital Beds Per 1,000 Population ^a	4.6	4.6	4.8	4.5
Number of Hospitals Per 1,000 Square Miles	1.9	1.9	1.9	1.9
Medicare Inpatient Days Per Person Over 65 Years	4.8	4.5	4.9	4.2
Medicare Outpatient Visits Per Person Over 65 Years	5.3	4.9	4.9	5.0

SOURCE: Area Resource File.

^aFrom 1987 County Hospital file; Population Estimate (1987) from U.S. Bureau of Census.

inpatient days per beneficiary for all eligible areas. The funded counties have slightly fewer Medicare outpatient visits per elderly resident (4.9 Medicare outpatient visits for funded areas and 5.3 Medicare outpatient visits for all eligible areas). This slightly lower rate for outpatient visits may be due to the relatively sparse population. Medicare beneficiaries may have to travel further for health care services in these areas, making it more costly to obtain care and thereby decreasing the number of visits.

3. Health Professional Shortages

Access to health care is governed by availability of health care professionals. Over half of the 1991 grantees (54 percent) are located in areas that were designated as Primary Care Health Professional Shortage Areas (HPSAs) in 1987. Table VII.4 shows that this proportion is similar for all eligible and applicant hospitals' counties. This high proportion of HPSA-designated counties suggests that there is an unmet need for health care professionals in these areas.

Forty percent of the 1991 grantees are located in counties with a staffed National Health Service Corps (NHSC) site in 1986. This proportion is lower than the 47 percent of eligible areas and the 44 percent of applicant areas with a staffed NHSC site. One probable reason for this lower percentage of counties with a staffed NHSC site is that, in previous years, an above average percentage of counties with staffed NHSC sites were funded, and these hospitals are not eligible for this solicitation (Cheh et al., 1990).

TABLE VII.4

PERCENTAGE OF HOSPITALS LOCATED IN COUNTIES DESIGNATED AS
 PRIMARY CARE HEALTH PROFESSIONAL SHORTAGE AREAS (HPSA's)
 IN 1987 AND WITH A NATIONAL HEALTH SERVICE CORPS (NHSC SITE)
 IN 1986: 1991 APPLICANTS

Characteristic	Eligible Hospitals	Grant Applicants	Funded Grants	Nonfunded Applicants
Percentage of Hospitals in Counties without HPSA Designation	50.8	52.7	46.5	57.4
Percentage of Hospitals in Counties with Partial or Whole County HPSA Designation	49.2	47.4	53.5	42.5
Percentage of Hospitals in Counties with a Staffed NHSC Site	46.8	43.4	39.6	47.0

SOURCE: Area Resource File.

D. FEDERAL AND EXTERNAL FUNDING AND LOCAL COOPERATION

1. Federal Funding Amounts

Most of the 445 applicants for the 1991 RHCT grants program applied for 3 years of funding. The 1991 applicants requested a total of \$19,143,170 for the first year, \$17,929,607 for the second year, and \$16,775,603 for the third year. Funding requested for the second and third years is lower than the first year partly because some hospitals planned to complete their projects in less than 3 years and partly because some hospitals expected revenues from their projects to increase over the 3-year period, offsetting their need for Federal subsidies.

The funds requested exceeded the amount available for the program. As a result, HCFA used the selection process described earlier to choose the 1991 grantees. Just over \$8.1 million was awarded to 187 applicants for fiscal 1991. The majority of the grants were for \$50,000 per year. The largest amount awarded over the 3-year period was \$450,000, received by each of two different consortia of three hospitals, and the smallest amount awarded over the 3-year period was \$32,689, received by a hospital in Idaho.⁶

⁶A three-hospital consortium in Iowa (Anamosa Community Hospital, John McDonald Hospital, and Virginia Gay Hospital) received a grant of \$450,000 and a three-hospital consortium in North Dakota (Tioga Medical Center, St. Luke's Hospital, and Stanley Community Hospital) received a total grant of \$450,000.

2. External Funding

RHCT grant applicants are encouraged to seek external funding to complement the grant funds. Applicants are requested to report the amount of external funding promised for the project. The broad definition of external funding, the various methods used by hospitals to quantify "in-kind" support, and the softness of the funding commitments suggest caution in interpreting the data provided by the hospitals on external funding.

The typical sources of external funding proposed by the applicants are the hospital itself and the auxiliary associated with the hospital. Many hospitals indicated that they intended to supplement the grant funds with funds that they had already committed to the project or with funds that would be committed if they received a grant. Typically, these nongrant monies were to be used to purchase equipment needed for the project because the equipment costs exceed the one-third capital budget limit imposed by Congress on grant funds.

Another common source of external funding is revenue from the proposed project. Some hospitals showed revenue projections and indicated that these revenues would be used to fund future project costs. Other hospitals just indicated that they expected that the revenues from the project would make up the difference between expected project costs and the amount requested from the 1991 RHCT grants program.

Technical panels considered the extent of external financing in proposal evaluation; hence, having external funding increased the likelihood that the proposed project would

receive Federal funds. The median value of external financing was \$31,625 for the funded 1991 grantees and \$26,741 for the other applicants (see Table VII.5). Thirteen of the 187 funded proposals (or 7 percent) proposed no external financing and 49 of the 258 nonfunded applicants' proposals (19 percent) proposed no external financing.

3. Local Cooperation

One criterion set forth by Congress as a factor for evaluating the applicants was the amount of local cooperation demonstrated in the proposal. As we found in 1989 and 1990, the applicants interpreted the term "local cooperation" differently. Many of the hospitals misunderstood the criterion and discussed cooperation between hospital staff members.⁷ The other applicants described two types of local cooperation: cooperation between the hospital and the community and cooperation between the applicant hospital and other health care providers.

To demonstrate community cooperation, many applicants appended letters from members of the community who supported the hospital's project. Typically, these letters offered vague support of the project. To demonstrate cooperation with other health care providers (usually outside the area), some of the applicants appended letters from State

⁷These hospitals typically cited how long the administrative staff had worked together and provided letters from board members stating how enthusiastic they were about the grant project.

TABLE VII.5
EXTERNAL FINANCING OF FUNDED AND NONFUNDED PROPOSALS:
1991 APPLICANTS

Amount of Financing	Funded Proposals	Nonfunded Proposals
Median Value of External Financing	\$31,625	\$26,741
Maximum Value of External Financing	\$4,126,100	\$1,336,396
Number of Proposals with No External Financing	13	49
Number of Proposals	187	258

NOTE: This table was produced by National Biosystems.

health officials, State medical societies, or medical schools stating that the proposed project was sound, and pledging to help the hospital. To show broad community support, one 1991 grantee submitted a petition signed by over 100 residents stating that the community recognized a need for the grant project and that the community pledged its support for the project.

E. COMPARISON OF 1989, 1990, AND 1991 APPLICANTS

The number of applicants for the RHCT grants program dropped from 704 in 1989 to 502 in 1990 to 445 in 1991. This decrease was the result of three factors: (1) the hospitals that received grants in both 1989 and 1990 and received maximum grant funding for their continuation in 1991 were ineligible to apply for an award in 1991, (2) some of the hospitals that were eligible in 1989 and 1990 closed, and (3) some of the 1989 and 1990 applicants that were not awarded grants became discouraged and did not apply in 1991.

The average grant funding requested per applicant per year fell between 1989 and 1991. The 1989 grantees requested an average of \$86,795 for a 2-year period (an average of \$43,398 per year). The 1990 grantees requested an average of \$119,667 for a 3-year period (an average of \$39,889 per year). The 1991 grantees requested an average of \$121,008 for a 3-year period (an average of \$40,336 per year). The 1991 applicants requested a total of \$53,848,380, approximately \$6.2 million less than the total amount requested by 1990 applicants (which was \$60,073,281).

The geographic distribution of the applicants is different in 1991 than in 1989 and 1990 (see Table VII.6). The proportion of applicants from the North Central census region fell from 51 percent in 1990 to 46 percent in 1991 (with a dramatic decrease in the number of applications from Indiana). In turn, the proportion of applicants from the other three regions increased. The proportion of applicants from the Northeast census region increased slightly from 3 percent in 1990 to 4 percent in 1991 (with an increase in applications from Maine and Connecticut), and the proportion of applications from the South census region also increased slightly from 29 percent in 1990 to 30 percent in 1991 (attributed to an increase in applications from Texas). The program's largest proportional increase came in the West census region, where the proportion of applicants rose from 17 to 20 percent. This increase is partially due to the relative increase in the number of applications from Colorado and Montana.

Some of the area characteristics of the 1991 applicants differ slightly from the 1989 and 1990 applicants. The typical 1991 applicant has slightly fewer people per square mile and a lower proportion of blacks than 1989 and 1990 applicants. The differences in population density and racial composition are due to the shift in the distribution of applications from the South census region to the West census region. Otherwise, the 1989, 1990, and 1991 applicants are from areas with very similar characteristics. There is less than a 10 percent

TABLE VII.6
COMPARISON OF THE AREA CHARACTERISTICS OF
1989, 1990, AND 1991 GRANT APPLICANTS
(At Time of Award)

	1989	1990	1991
Number of Applicants	704	502	445
Percent Distribution by Region			
Northeast	6 %	3 %	4 %
North Central	36 %	51 %	46 %
South	40 %	29 %	30 %
West	18 %	17 %	20 %
Area Characteristics (medians)			
Population Density Per Square Mile ^a	23.6	21.4	20.3
Percentage of Population 65 Years and Over ^b	14.3 %	15.1 %	14.9 %
Percentage of Population Black ^b	7.1 %	5.3 %	4.7 %
Annual Per Capita Income ^c	\$11,166	\$11,499	\$11,423
5-Year Infant Mortality Rate (Per 1,000 Live Births) ^d	10.4	10.4	10.2
Number of Hospital Beds Per 1,000 Population ^f	4.4	4.8	4.6
Percentage of Hospitals in Counties with Full or Partial HPSA Designation (1987)	50.8 %	50.2 %	47.4 %

^a1987 population estimates divided by land area in square miles.

^b1980 Census Data. Columns do not add to 100 percent because "other" ethnicities are not shown.

^c1986 per capita data from the 1969-1986 Local Area Personnel Income Tape, U.S. Department of Commerce, Bureau of Economic Analysis.

^d1981-1985, National Center for Health Statistics.

^fFrom 1987 County Hospital file; Population Estimate (1987) from U.S. Bureau of Census.

difference in the percentage of elderly living in the county, the 5-year infant mortality rate, the annual per capita income, the number of hospital beds per thousand population, and the percentage of hospitals in counties with a HPSA designation (see Table VII.6).

F. COMPARISON OF 1989, 1990, AND 1991 GRANTEEES

Because the process used by HCFA to select the grantees considered the geographic distribution of eligible hospitals, the proportion of grants awarded by region did not change dramatically from 1990 to 1991. Although the percentage of the grantees in the Northeast census region increased from 3 percent to 6 percent and the proportion in the South census region decreased from 33 percent to 29 percent, the proportion of the grantees in the North Central and the West census regions remained about the same (see Table VII.7).

The area characteristics of the 1991 grantees are similar to those of the 1989 and 1990 grantees, with the exception of population density and ethnic distribution. The population density decreased from a median 24.8 persons per square mile for the 1989 grantees to a median 16.7 for 1991 grantees--a 33- percent decrease. The percentage of blacks decreased from 6.4 percent to 4.5 percent--a 30-percent decrease. The decrease in the number of eligible hospitals over the past 3 years of the program (due to hospitals receiving grants) and the shift in the distribution of grantees from the Northeast and South census regions to the North Central and West census regions account for these differences.

The average amount awarded for the first year of the 1989, 1990, and 1991 projects is virtually the same. The average award made was \$44,861 in 1989, \$44,212 in 1990, and

TABLE VII.7
COMPARISON OF 1989, 1990, AND 1991 GRANTEES
(At Time of Award)

	1989	1990	1991
Number of Grantees	184	212	187
Average First Year Funding Amount	\$44,861.10	\$44,212.18	\$43,708.22
Percent Distribution by Region			
Northeast	8 %	3 %	6 %
North Central	40 %	46 %	47 %
South	34 %	33 %	29 %
West	19 %	18 %	18 %
Number of Consortia Projects	11	16	14
Percentage of Grantees in Consortia	21 %	29 %	26 %
Area Characteristics (medians)			
Population Density Per Square Mile ^a	24.8	21.8	16.6
Percentage of Population 65 Years and Over ^b	14.4 %	15.0 %	15.4 %
Percentage of Population Black ^b	6.4 %	4.7 %	4.5 %
Annual Per Capita Income ^c	\$11,271	\$11,441	\$11,722
5-Year Infant Mortality Rate (Per 1,000 Live Births) ^d	10.3 %	10.5 %	10.2 %
Number of Hospital Beds Per 1,000 Population ^f	4.9	4.2	4.9
Percentage of Hospitals in Counties with Full or Partial HPSA Designation (1987)	58 %	48 %	53 %

NOTES: Percentages may not add to 100 percent due to rounding error.

^a1987 population estimates divided by land area in square miles.

^b1980 Census Data. Columns do not add to 100 percent because "other" ethnicities are not shown.

^c1986 per capita data from the 1969-1986 Local Area Personnel Income Tape, U.S. Department of Commerce, Bureau of Economic Analysis.

^d1981-1985, National Center for Health Statistics.

^fFrom 1987 County Hospital file; Population Estimate (1987) from U.S. Bureau of Census.

\$43,018 in 1991. The 1991 amount is close to the maximum amount of funding available (\$50,000 per year).

The large increase in the number of consortium projects between 1989 and 1990 did not continue into 1991. HCFA funded 14 consortia projects in 1991; more than the 11 consortia projects funded in 1989, but fewer than the 16 consortia projects funded in 1990 (see Table VII.7). Not surprisingly, the percentage of grantees involved in a consortium project is also greater in 1991 than in 1989 (26 percent versus 21 percent); but lower in 1991 than in 1990 (26 percent versus 29 percent).

VIII. ACTIVITIES FOR THE NEXT 6 MONTHS

A. MONITORING

As the 1989, 1990, and 1991 grantees complete, respectively, the third and second and first year of their projects, we will continue to monitor their progress through semi-annual reports, telephone follow-up, and site visits. The next semi-annual report from hospitals is due in June 1992, covering the period October 1, 1991 to March 31, 1992 for the 1989 and 1990 grantees. The next report will also cover the progress of the 1991 grantees for the period October 1, 1991 to December 31, 1991.

B. REPORT TO CONGRESS

The sixth report on the grant program will describe the progress made by both 1989 and 1990 over the next 6 months, based on hospital self-reports, and the progress made by the 1991 grantees over their first 3 months, based on hospital self-reports. Special sections will compare the characteristics of the 1990 consortium projects with the 1989 consortium projects, as well as changes in key background characteristics for the 1989 and 1990 grantees over the past year. The startup problems and successes of the 1991 grantees, and preliminary results from the 1989 grantees that completed their projects in 2 years will also be presented.

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APPENDIX A

**1989 AND 1990 GRANTEES CONTINUING IN
THE RURAL HEALTH CARE TRANSITION
GRANTS PROGRAM**

APPENDIX A

HOSPITALS CONTINUING IN THE RURAL HEALTH CARE TRANSITION
GRANTS PROGRAM BY STATE AND YEAR OF AWARD

	1989 Grantees	1990 Grantees
Alabama	Bibb Medical Center Fayette County Hospital Greene County Hospital Hale County Hospital	Vaughan Regional Medical Center
Alaska	Wrangell General Hospital	
Arkansas	Baptist Med. Ctr./Twin Rivers Clayton Memorial Hospital Fulton County Hospital Helena Regional Medical Center Piggott Community Hospital Stuttgart Memorial Hospital	Booneville City Hospital Carroll General Hospital Lawrence Memorial Hospital Yell County Hospital
Arizona	Casa Grande Regional Medical Center	Cardinal Holy Cross Hospital Flagstaff Medical Center Havasupai-San Juan Regional Hospital Navajito Hospital Page Hospital
California	John C. Fremont Hospital Lakeside Community Hospital Pioneers Memorial Hospital Redbud Community Hospital	Marys Memorial Hospital Needles-Desert Communities Hospital Phonix District Hospital Southern Inyo Hospital Sunrise Valley Community Hospital
Colorado	Heart of the Rockies Melissa Memorial Hospital Pioneers Hospital of Rio Blanco City Southeast Colorado Hospital	Gunnison Valley Hospital St. Vincent General Hospital
Florida		Hardee Memorial Hospital Memorial Hospital - Flagler
Georgia	Taylor Regional Hospital Wills Memorial Hospital	Brooks County Hospital Charlton Memorial Hospital Grady General Hospital Mitchell County Hospital
Idaho	Grimm Memorial Hospital	Benewah Community Hospital Coeur d'Alene County Memorial Hospital Shoshone Medical Center Teton Valley Hospital
Illinois	La Harpe Hospital Association Massac Memorial Hospital The Julia Rackley Perry Memorial Union County Hospital District	Carmi Township Hospital Cibola Community Hospital Cooperston Community Memorial Hospital Pana Community Hospital Sarah D. Culbertson Memorial Hospital
Indiana	Adams County Memorial Hospital Blackford County Hospital Putnam County Hospital	Vermillion County Hospital

	1989 Grantees	1990 Grantees
Minnesota (continued)		Sioux Valley Hospital St. Peter Community Hospital & Health Care Tri-County Hospital United District Hospital and Home
Mississippi	Leake County Memorial Hospital Methodist Hospital of Middle MS. Inc. Nottoway General Hospital	Choctaw County Medical Center Montfort Jones Memorial Hospital Tallahatchie General Hospital Tyler Holmes Memorial Hospital
Missouri	Citizens Memorial Hospital Hermann Area District Hospital Moberly Regional Medical Center Perry County Memorial Hospital	John Fitzgibbon Memorial Hospital Nevada City Hospital Rupley County Memorial Hospital St. Vincent's Hospital
Montana	Broadwater Health Center Mountainview Memorial and Nursing Home St. Peter's Community Hospital Teton Medical Center	Barrett Memorial Hospital Central Montana Medical Center Holy Rosary Hospital Marcus Daly Memorial Hospital
Nebraska	Beatrice Community Hospital & Health Boone County Community Hospital Great Plains Regional Medical Center Thayer County Memorial Hospital	Annae Jeffrey Memorial County Hospital Brookstone Memorial Nuckolls City Hospital Butler County Hospital Cherryvale County Hospital Association Community Hospital Garden County Hospital & Nursing Home Jefferson County Memorial Hospital
Nevada		Battle Mountain General Hospital Elko General Hospital Grover C. Dils Medical Center Mt. Grant General Hospital Nye Regional Medical Center William Bee Ririe Hospital
New Hampshire	Cottage Hospital	The Memorial Hospital
New Mexico	Socorro General Hospital Southwest Community Health Services	Sierra Vista Hospital
New York	Cuba Memorial Hospital Jones Memorial Hospital Lewis County General Hospital Tri-County Memorial Hospital	Soldiers and Sailors Memorial Hospital
North Carolina	Ashe Memorial Hospital, Inc. Murphy Medical Center Our Community Hospital	Allegheny County Memorial Hospital Bladen County Hospital Montgomery Memorial Hospital Sloop Memorial Hospital
North Dakota	Community Memorial Hospital Community Memorial Hospital Griggs County Hospital & Nursing Home Mercy Hospital Pembina County Memorial Hospital	Community Hospital in Nelson County Griggs County Hospital Jacobson Memorial Hospital Care Center McKenzie County Memorial Hospital St. Joseph's Hospital and Health Center
Ohio	Highland District Hospital Pike Community Hospital	Adams County Hospital Defiance Hospital, Inc. Joel Pomeroy Memorial Hospital Mercy Hospital of Tiffin, Ohio Mercy Hospital, Willard
Oklahoma	Arbuckle Memorial Hospital Moka Memorial Hospital Farmers Union Hospital Association	Blackwell Regional Hospital Carron Memorial Hospital Craig General Hospital

	1989 Grantees	1990 Grantees
Vermont	Copley Hospital, Inc. Gifford Memorial Hospital North Country Hospital Northwestern Medical Center	Grace Cottage Hospital, Inc.
Virginia	Community Memorial Healthcare Lee County Community Hospital	Southampton Memorial Hospital
Washington	Odesa Memorial Hospital Skyline Hospital	Cascade Medical Center Columbia Basin Hospital Dayton General Hospital Tri-State Memorial Hospital
West Virginia	Pocahontas Memorial Hospital Satersville General Hospital Stonewall Jackson Memorial Hospital	Bronckus Hospital Association, Inc. Rouse General Hospital Summers County Hospital
Wisconsin	Adams County Memorial Hospital Memorial Hospital of Boscorbel Memorial Hospital of Iowa County, Inc. Northwoods Hospital Association, Inc. Southwest Health Center, Inc. St. Joseph's Hospital St. Mary's Hospital St. Mary's Kewaunee Area Memorial Hospital	Apple River Hospital, Inc. Bertin Memorial Hospital Chippewa Valley Hospital Memorial Hospital, Inc. Prairie du Chien Memorial Hospital St. Joseph's Memorial Hospital, Inc.
Wyoming	Memorial Hospital of Carbon County Memorial Hospital of Sweetwater County	Community Hospital

APPENDIX B
SCORE ADJUSTMENT PROCESS

APPENDIX B

SCORE ADJUSTMENT PROCESS

This appendix documents how scores of 1991 grant applications were adjusted to account for the differences in the panels' approaches to scoring the applications and how the adjusted scores were rescaled for easier interpretation. This work was done under Federal contract by National Biosystems.

To adjust the scores, the mean and standard deviation of the total scores for all proposals reviewed by each panel were calculated (there were 22 panels). Next, the panel mean was subtracted from each individual score, and this difference was divided by the panel standard deviation. Define X_{ip} as the individual proposal score assigned by the panel, X_p as the mean of all scores X_{ip} for that panel, and S_p as the standard deviation of the panel mean. The adjusted score (T_{ip}) is then calculated as:

$$T_{ip} = (X_{ip} - X_p)S_p$$

To rescale the adjusted scores so that they are easier to interpret, the maximum and minimum adjusted score across all applicants were first identified. Define T_{\max} as the maximum score and T_{\min} as the minimum. The rescaled score is then calculated as:

$$\text{Score} = \frac{T_i - T_{\min}}{T_{\max} - T_{\min}} = 100$$

This rescaling process results in scores that range from 0 to 100, the same as the original range of the panel-assigned scores. The process maintains the distribution and ranking of the adjusted scores.

APPENDIX C

**1991 RURAL HEALTH CARE TRANSITION GRANT WINNERS
LISTED BY STATE**

FUNDS AWARDED UNDER GRANT PROGRAM FOR
RURAL HEALTH CARE TRANSITION

State	Hospital Name	First Year Funding
AL	Baptist Medical Center - Cherokee	50,000
AL	Bullock County Hospital	38,820
AL	Coosa Valley Medical Center	47,500
AL	Cullman Medical Center	50,000
AK	Seward General Hospital	40,200
AZ	Southeast Arizona Medical Center	49,900
AZ	White Mountain Communities Hospital	50,000
AR	Cleburne Memorial Hospital	50,000
AR	Helena Regional Medical Center	50,000
CA	Colusa Community Hospital	50,000
CA	Redwood Memorial Hospital	50,000
CA	Southern Humboldt Community	50,000
CA	Tuolumne General Hospital	50,000
CO	Kremmling Memorial Hospital	39,484
CO	Mt. San Rafael Hospital	50,000
CO	Sterling Regional MedCenter	49,790
CT	Day Kimball Hospital	50,000
FL	Campbellton-Graceville Hospital	50,000
FL	Northwest Florida Community	50,000
FL	Walton Regional Hospital	50,000
GA	Gordon Hospital	50,000
ID	Bonner General Hospital	50,000
ID	Boundary County Community Hospital	50,000
ID	Clearwater Valley Hospital	50,000
ID	McCall Memorial Hospital	50,000
ID	Oneida County Hospital	32,689

FUNDS AWARDED UNDER GRANT PROGRAM FOR
RURAL HEALTH CARE TRANSITION

State	Hospital Name	First Year Funding
IL	Edward A. Utlaut Memorial Hospital	48,970
IL	Hardin County General Hospital	50,000
IN	Perry County Hospital	50,000
IN	Putnam County Hospital	50,000
IA	Anamosa Community Hospital	50,000
IA	Cass County Memorial Hospital	48,635
IA	Grundy County Memorial Hospital	50,000
IA	Humboldt County Memorial Hospital	50,000
IA	John McDonald Hospital	50,000
IA	Mercy Hospital	50,000
IA	Story County Hospital	45,344
IA	Van Buren County Hospital	50,000
IA	Veterans Memorial Hospital	49,815
IA	Virginia Gay Hospital	50,000
IA	Winneshiek County Memorial Hospital	49,963
KS	Anderson County Hospital	50,000
KS	Arkansas City Memorial Hospital	50,000
KS	Coffey County Hospital	50,000
KS	Community Memorial Hospital	50,000
KS	Geary Community Hospital	50,000
KS	Memorial Hospital Association	50,000
KS	Mercy Hospital of Independence	50,000
KS	St. John Hospital	50,000
KY	Grayson County Hospital	50,000
KY	Kentucky River Medical Center	47,372
KY	Ohio County Hospital Corporation	50,000
LA	Abrom Kaplan Hospital	50,000

FUNDS AWARDED UNDER GRANT PROGRAM FOR
RURAL HEALTH CARE TRANSITION

State	Hospital Name	First Year Funding
ME	Down East Community Hospital	50,000
ME	Maine Coast Memorial Hospital	50,000
ME	Miles Memorial Hospital	25,000
ME	St. Andrews Hospital	25,000
MI	Calumet Public Hospital	23,544
MI	MidMichigan Regional Medical Center	49,780
MN	Ada Municipal Hospital	50,000
MN	Arnold Memorial Hospital	50,000
MN	Cuyuna Regional Medical Center	50,000
MN	Granite Falls Municipal Hospital and Manor	50,000
MN	Hutchinson Community Hospital	50,000
MN	Lakeview Memorial Hospital & Home	50,000
MN	Luverne Community Hospital	50,000
MN	St. Gabriel's Hospital	50,000
MS	Claiborne County Hospital	50,000
MS	George County Hospital	50,000
MS	Hillcrest Hospital	50,000
MS	King's Daughters Hospital	50,000
MS	Lawrence County Hospital	50,000
MO	Albert M. Keller Memorial Hospital	50,000
MO	Cooper County Memorial Hospital	50,000
MO	Gentry County Memorial Hospital	50,000
MO	Pemiscot Memorial Hospital	50,000
MO	Scotland County Memorial Hospital	50,000
MO	St. Francis Hospital	49,155
MO	Sullivan County Memorial Hospital	50,000
MT	Big Horn County Memorial Hospital	50,000

**FUNDS AWARDED UNDER GRANT PROGRAM FOR
RURAL HEALTH CARE TRANSITION**

State	Hospital Name	First Year Funding
MT	Community Hospital of Anaconda	49,938
MT	Fallon Medical Complex	30,000
MT	Glendive Medical Center	47,500
MT	McCone County MAF & NH	39,000
MT	Pondera Medical Center	49,954
MT	Prairie Community Hospital & NH	34,500
MT	Trinity Hospital	50,000
NE	Antelope Memorial Hospital	7,900
NE	Brown County Hospital	7,900
NE	Cambridge Memorial Hospital and Health Center	40,967
NE	Cherry County Hospital	7,900
NE	Lundberg Memorial Hospital	7,900
NE	Niobrara Valley Hospital	7,900
NE	Osmond General Hospital	7,900
NE	Pawnee County Memorial Hospital	45,000
NE	Perkins County Community Hospital	50,000
NE	Plainview Public Hospital	7,900
NE	Rock County Hospital	7,900
NE	Sargent District Hospital	49,965
NE	St. Anthony Hospital	7,900
NE	Valley County Hospital	50,000
NE	West Holt Memorial Hospital	7,900
NH	Littleton Regional Hospital	50,000
NH	Weeks Memorial Hospital	38,000
NM	Gila Regional Medical Center	47,573
NM	Mimbres Memorial Hospital	50,000
NM	Nor-Lea General Hospital	49,761

**FUNDS AWARDED UNDER GRANT PROGRAM FOR
RURAL HEALTH CARE TRANSITION**

State	Hospital Name	First Year Funding
OK	Holdenville General Hospital	33,250
OK	Watonga Municipal Hospital	50,000
OK	Woodward Hospital and Health Center	50,000
OR	Lebanon Community Hospital	50,000
OR	Mercy Forest Glen Hospital	50,000
PA	Greene County Memorial Hospital	50,000
PA	Moshannon Valley Community Hospital	50,000
SC	Clarendon Memorial Hospital	50,000
SD	Baptist Hospital	16,000
SD	Community Memorial Hospital - Wagner	16,000
SD	Community Memorial Hospital - Burke	16,000
SD	Dakota Hospital	16,000
SD	DeSmet Hospital	50,000
SD	Flandreau Municipal Hospital	50,000
SD	Freeman Community Hospital	16,000
SD	Landmann-Jungman Memorial Hospital	16,000
SD	Pioneer Memorial Hospital	16,000
SD	Southern Hills General Hospital	47,611
SD	St. Benedict Hospital	44,000
SD	St. Michael's Hospital	16,000
TN	Hickman County Health Services	49,420
TN	Lewis Community Hospital	48,620
TN	Perry Memorial Hospital	43,850
TX	Central Texas Hospital	50,000
TX	Chillicothe Hospital District	50,000
TX	Crockett County Hospital	49,600
TX	De Leon Hospital District	50,000

FUNDS AWARDED UNDER GRANT PROGRAM FOR
RURAL HEALTH CARE TRANSITION

State	Hospital Name	First Year Funding
NY	Canton-Potsdam Hospital	43,950
NY	Community General Hospital of Sullivan County	49,775
NY	Margaretville Memorial Hospital	49,500
NC	Anson County Hospital	50,000
NC	Blowing Rock Hospital, Inc.	50,000
NC	Blue Ridge Hospital System, Inc.	50,000
NC	Charles A. Cannon, Jr. Memorial Hospital	50,000
NC	Robersonville Community Hospital, Inc.	50,000
ND	Ashley Medical Center	49,860
ND	Garrison Memorial Hospital	49,480
ND	Hillsboro Community Hospital	10,689
ND	Kenmare Community Hospital	16,666
ND	Mercy Hospital	50,000
ND	Presentation Medical Center	16,666
ND	Renville Bottineau Memorial Hospital	49,772
ND	St. Aloisius Hospital	
ND	St. Andrews Hospital	16,666
ND	Stanley Community	50,000
ND	St. Luke's Hospital	50,000
ND	Tioga Medical Center	50,000
ND	Towner County Memorial Hospital	50,000
ND	Wishek Community Hospital	49,860
OH	Fostoria City Hospital	46,900
OH	Oak Hill Community Medical Center, Inc.	50,000
OK	Beaver County Memorial Hospital	50,000
OK	Cleveland Area Hospital	50,000
OK	Harper County Community Hospital	50,000



FUNDS AWARDED UNDER GRANT PROGRAM FOR
RURAL HEALTH CARE TRANSITION

State	Hospital Name	First Year Funding
TX	Hall County Hospital	50,000
TX	Hamilton County General Hospital	50,000
TX	Harris Methodist-Erath County	50,000
TX	Harris Methodist-Mexia	50,000
TX	Hill Country Memorial Hospital	50,000
TX	Knox County Hospital	50,000
TX	Lee Memorial Hospital	50,000
TX	Medina Community Hospital	48,000
TX	Panola General Hospital	50,000
TX	Pecos County General Hospital	50,000
TX	Stephens Memorial Hospital	50,000
TX	Yoakum Community Hospital	49,800
UT	Central Valley Medical Center	49,841
UT	Gunnison Valley Hospital	49,944
VA	Bath County Community Hospital	50,000
WA	Odessa Memorial Hospital	50,000
WA	Pullman Memorial Hospital	50,000
WA	Quincy Valley Hospital	50,000
WV	Grant Memorial Hospital	50,000
WV	Sistersville General Hospital	20,000
WV	Webster County Memorial Hospital	50,000
WI	Door County Memorial Hospital	50,000
WI	Langlade Memorial Hospital Hotel Dieu of St. Joseph	50,000
WI	Osseo Area Municipal Hospital and NH	50,000
WI	Sauk Prairie Memorial Hospital	49,600
WY	Ivinson Memorial Hospital	50,000

NOTE: Table was produced by National Biosystems.

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